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THE MUSEUM
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Bull's Head of Gold and Lapis, Probably Decorating the Royal Harp. B. C. 3500

THE
MUSEUM JOURNAL

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OLD SUMERIAN ART

By L. Legrain

IT is a pure joy for a weary archæologist to plunge into a study of Oriental art—the oldest known Mesopotamian art—thanks to the rich collection of objects, figures, statues, reliefs, and engravings discovered in the predynastic cemetery at Ur. A new stage of civilization, perfectly unknown a year ago, has now been reached. And to our great surprise, out of the mystery of the past beauty shines with a wonderful glamour. Gold and silver, blue lapis and red carnelian, mother of pearl and shell inlay, lavishly used by the Sumerian artists, show their good taste in the blending of colours, their mastery in the lines of the figures, the boldness and force of their drawings, which have a primitive charm and a subtle refinement such as we find at first hard to reconcile with so early a date. Many of the objects recovered, like the harp, the gaming boards with their sets of 'men' and dice, the golden comb so like a Spanish comb, the rings and garter of the queen, the fluted gold tumbler and the chalice, the chariots and their teams, all seem wonderfully familiar and close to us, while the wholesale murder and burial of servants and retainers round the grave of their lord and lady hint at grim customs of hoary ages.

Such beautiful objects were not the work of beginners. Civilization even then was an ancient achievement in Mesopotamia, whence it spread westward. Where shall we look for or place its origin? We do not know. But obviously the old Sumerian art at Ur is already a classical art, with fixed types and school conventions. Modelling, casting, carving, and engraving have no secrets for the expert craftsmen. Their best pieces of work show an ideal of force and dignity not devoid of a certain heaviness, a minute rendering of

details, a love of nature and animal life. It is a subtle and curious art which likes inlay and polychromy, delights in the mingling of colours and materials, the blending of low and high relief with boldly salient parts in the round. Its style is surprisingly free and is not abashed by the difficult tracing of figures *en face*, or the shortening of proportions in perspective. It has even an apparent sense of humour, probably with a deeper meaning, in scenes where animals are given the attitudes and play the parts of men: a dog carries a small altar loaded with offerings, a lion follows him bringing a lamp and the wine of the sacrifice. It is remarkable that the animals are by degrees transformed and given the head, face, locks, beard, arms, feet, and torso of man. We have composite monsters, a bison with a human face, a scorpion-man, a donkey seated and playing the harp with his fingers, a rampant gazelle holding two tumblers, a scaled monkey (?) playing with a rattle and drumming on a board.

This is pure mythology. We are introduced into a world in which animals can play and talk like men: a land of fable such as has always enchanted and will still long delight the children of men. And by the by, that marvellous curled beard hanging below the chin of the man-faced bison is not at all an emblem of divinity, but a sign of human virility. The horned mitre with one, two or four pairs of horns is the only certain emblem of divinity, both for gods and goddesses. So the bull might be a god, even without a beard. The crescent horns are the emblem of the Moon God, called the young bull of heaven. That mighty blue beard simply brings him one step closer to humanity, and may or may not decorate the golden head which animates and gives a voice to the harp "roaring like a bull."

And here we find a very important link between the old Sumerian art of Ur and the still earlier Elamite civilization—about 4000 B. C.—known through the French excavations at Susa. It is remarkable that the old Elamite artist in all his painting and carving and engraving "never represents a god under human form. But he multiplies animal figures, especially figures of wild species, and gives to them strange attitudes and human gestures. His imagination creates composite monsters, dragons and griffins. And when he reaches a higher stage, it is in scenes where the figures of Gilgamesh and Enkidu are conspicuous and betray a close relation with Babylonia."[1]

"The Gilgamesh and Enkidu contests with wild animals are simply the heroic development of natural hunting scenes by which

[1] Del. 16, p. 2.

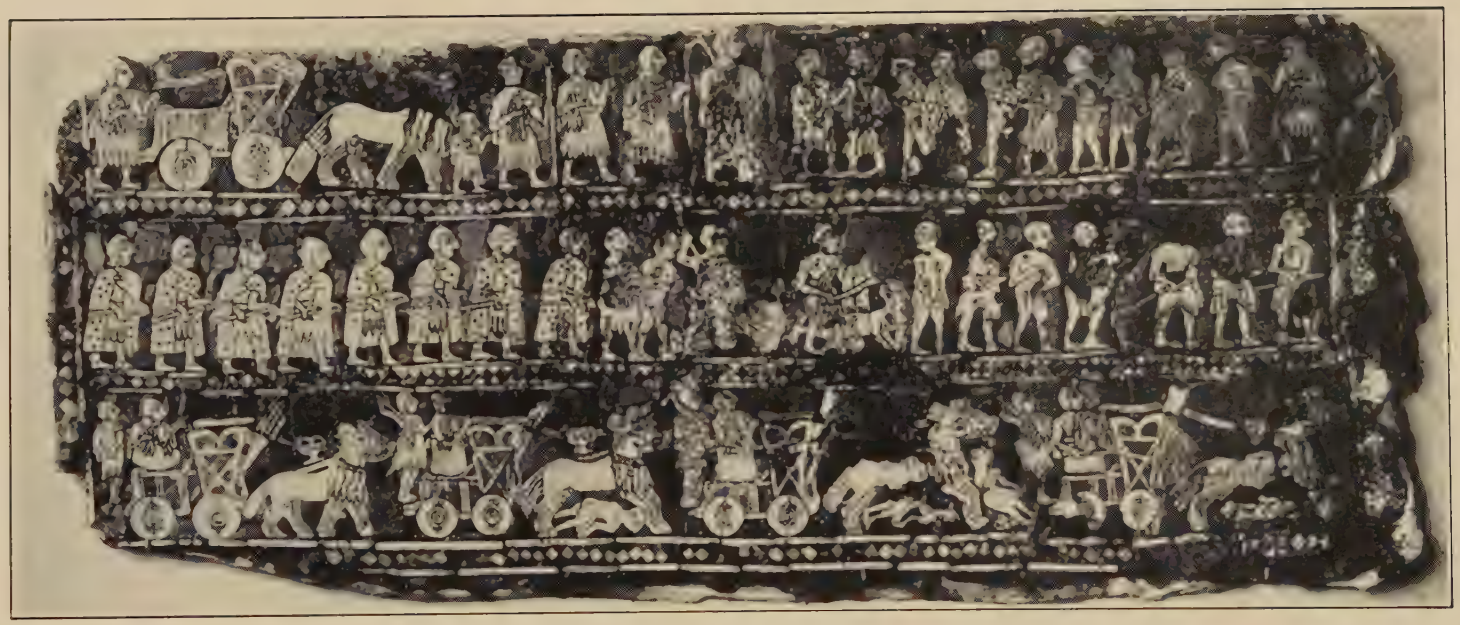
a contact is established with the archaic or Elamite period. The worshipping of gods in human form with crowns, sceptres, and thrones like kings is a new feature of the Sumero-Akkadian civilisation apparently unknown to the pre-Elamites—and to the predynastic Sumerians of Ur. It supposes regular institutions, city states, courts, and temples modelled on the courts. It expresses a higher ideal of worship no longer limited to stones, animal figures, weapons, and emblems, but to gods akin to humanity.

"Between these two extremes: heroic hunting and regular court worship of the gods, there is a large intermediary layer of mythological figures which seems to connect them and where we see the human god emerging from the beast, or in close contact with the primitive forces of nature. . . . When the gods attained full human stature and royal dignity, the world of heroes and demigods always had a number of bullmen, lionmen, birdmen, fishmen and scorpion-men; while the pure animals: bull, lion, dragon, bird, fish, serpent, scorpion, become simple followers, emblems and servants of the gods."[1]

The eagle, a royal bird, has never attained, as an emblem of divinity, to the popularity of the bull. The eagle triumphs over wild animals, bull, bearded bison, and others. Eagle feathers decorate the heads of Sumerian chiefs, or are an ornament between the horns of the oldest mitre. But they soon disappear and are replaced by two or more pairs of horns, the round crescent horns of the bison, the accepted emblem of divinity. Anthropology and archæology are both interested in that primitive heraldry. The war eagle of the gods of the atmosphere is the lord of all the creatures of the pasture land. Is not the Moon God like a great bull moving across the pastures of heaven? All Sumer rejoices when his golden horn shines over the horizon, bringing in regular succession months and seasons and years. He is only the son of the god of the atmosphere but he is the guide and teacher of the Sumerian tribes and of their pastors, and his golden crown has impressed them as the highest emblem by which they can distinguish heavenly powers.

The happy restoration by the British Museum experts of some of the magnificent objects of art taken from the predynastic cemetery at Ur and their recent publication will be welcome to the readers of the JOURNAL. They will admire the stela or standard with six rows of Sumerian figures and scenes of peace and war cut in shell and

[1] P. B. S. 14, p. 13.



The old Sumerian stela. War scenes. The king and the prisoners. The legion. The charioteers. Shell inlaid in blue lapis.

inlaid on a background of blue lapis; the sounding-box of a harp decorated with inlay, engraved plaques, and a bull's head in gold and lapis; another bull's head in gold and lapis, part of a statue or probably of a second harp; finally a rein ring in silver surmounted by a bull mascot from the king's wagon. In the field of the past, the mist is slowly lifting, leaving a bright golden spot in the muddy plains of Mesopotamia, where Shub-ad was once a queen and Mes-kalamdug a king in ancient Ur, more than five thousand years ago.

The Inlay Stela

It seems almost impossible ever to satisfy our curiosity by looking at the world of little Sumerian figures crowded in the six registers of the stela and in the two triangular ends. The whole is only 32 inches long, but there is such a variety of action, such a sense of life, with so many different costumes of the king, of his officials and his servants, such a display of arms, cloaks and helmets, such a contrast between the victors and their tattooed enemies, such a fascination about the chariots, their drivers, their men-at-arms, their teams of asses and their harness, that we gaze again and again, afraid to miss a single detail of that wonderful picture of ancient Sumerian life. The king is the real war lord. His figure is drawn on a larger scale and stands in the middle of the upper register. He carries in the right hand a curved club, his sceptre, and in the left, a lance with a large leaf-shaped head. Prisoners are brought one by one to him, and foremost one who is probably the chief of the defeated enemies. The king has alighted from his chariot and is followed by his body-guard or by officials of high rank, armed with battle-axe and lance. The king, his guard, and his soldiers all wear copper helmets covering the ears and tied with a strap below the chin. Some of the original helmets have been recovered in the excavations and the type strangely recalls some helmets of the crusaders' time. Lances and axes also have been recovered of the very type represented on the stela. The best gold models must have been the weapons of the king. The proper Sumerian dress is a kilt with long laps, closing behind. Originally a fleece, it may later have been made of woollen material with long thrums woven in on one side in imitation of the fleece. A second piece of the same material—called *kaunakes*—was thrown like a plaid over the left shoulder. The whole army was shaven and shorn according to Sumerian tradition, and went barefooted, which was no inconvenience on the soft muddy soil of

The old Sumerian stela. Scenes of peace. The banquet. Cattle, flocks, teams of asses, and provisions. Shell engraved and inlaid in blue lapis.

Mesopotamia. Of course a wadded lining was fixed inside the helmet; traces of one have been found inside the golden wig.

The king's chariot is of the common type of that age, with four wheels, side and back panels, a high front board, and a curved pole rising high and supporting a rein ring behind its junction with the yoke. A diminutive groom, his whip resting on his shoulder, leads the royal team of great mules or asses. The man-at-arms or henchman follows on foot behind, holding the reins in his left and his battle-axe in his right hand. The reins lie in the V-shaped notch cut in the top of the front board. A large quiver full of spare darts and lances hangs on the left horn of the same board. A leopard skin or blanket is thrown over the back panel and covers the step on which the second charioteer will stand during the action, protecting the driver fighting in front. The front board is reinforced by cross pieces, the sides are divided into three panels by straight bars. State chariots decorated with an inlaid pattern of shell and lapis, and lions', bulls' and leopards' heads in gold and silver in the round have been recovered in the royal tombs. These were not war chariots but rather belong to the sumptuous type of coach which Ishtar devised as a reward for her lovers: "I will harness for thee a chariot of lapis and gold, with wheels of gold and horns of diamond. Daily shalt thou harness the great mules."

Ishtar herself, the august princess of Uruk, who inhabits a house of gold, drove a team of seven lions. But this is pure mythology. The king's own team was incontestably a team of four mules or donkeys. For the first time we have a clear, complete picture of the animals with body, hoofs, head, and tail, and they are neither horses nor lions nor bearded bulls nor dragons, but asses, which is very satisfactory. What seems to be the long hair round their necks is neither mane nor beard, but artificial braids of hair or wool attached to the collar like an ornament or to drive flies away, a practice very much in honour among the Assyrians and still observed in many parts of the world. The reins were attached to a ring in the animal's nose. Silver collars and silver rings have been found in the royal graves, providing evidence that teams of bulls were used as well as teams of asses.

The plain wooden wheels made of two semicircular pieces joined by copper clamps or bands round a central core, have excited the enthusiasm of archæologists. The wheel, a great human discovery, was in use at Ur more than fifteen hundred years before it was

imported into Egypt. There are several models of wheels which show that the central core was either round or lozenge-shaped. The wheel was probably solid with the axle which turned with it in a groove below the body of the chariot. A copper pin or bolt sometimes secured its connection with the axle. In any case the early Sumerian wheel was massive and not yet made more graceful or lighter by the use of spokes. Big knobs of metal sometimes reinforced the rim. Mr. Woolley has suggested leather tires. The only wheelband discovered at Susa was made of six bronze sections riveted together and forming a complete circle embedded in the rim.

Centuries later Gudea, another prince of Sumer, was ordered to build the royal chariot of his god: "Break the seal (of the doors) of thy treasure house; bring wood out of it, and build a complete chariot for thy king. Harness to it the donkeys. Adorn the chariot with metal and lapis inlay. Darts in the quiver shall shine like the day. Take good care of the *ankar*, the arm of bravery." Gudea brought out his most precious timber, esalim-wood, mêsu-wood, huluppu-wood. He completed the chariot and harnessed to it the great Uk-kash donkeys. The chariot shone like the stars in heaven. The donkeys were of the famous breed of Eridu, and the driver Ensignun could drive like a storm. It was an irresistible machine of war: "The chariot named Kurmugan, was loaded with splendour, covered with brilliancy. With its donkeys, its groom, the seven-headed club, the terrible weapons of the battle, the weapons which no country can resist, the deadly weapons of the battle, the Mi-ib, with a lion head in hulalu stone which no land resists, the sword with the nine emblems, the arm of bravery, the bow which sounds like a (forest), the terrible arrows of the battle which dart like lightnings, the quiver out of which wild beast and dragons let hang their tongues, arms of the battle to fulfil the orders of royalty, all this was a present of Gudea, builder of the temple, patesi of Lagash."

All the prisoners brought in to the king are nude except the first of them, who wears a short fringed kilt, but he is so indistinct a figure that it is hard to decide whom he represents, probably the enemy king. All have ropes round their necks and their arms tied behind their backs. They are shaven and shorn like their Sumerian opponents and it would have been difficult to distinguish one from another if the enemies did not have marks—war paint or tattoo?—all over the body, on skull, cheek, chest, and thigh. Or are these marks of the wounds inflicted by the battle-axes and lances which we

see in the hands of the soldiers, a graphic representation of the blood trickling from the cuts in the flesh? There is a certain freedom of style in that otherwise monotonous procession. Not one figure is the exact copy of the other. The groups are not rigidly the same. Two prisoners are marshalled by one man—if this is the original order? All the soldiers do not carry the same weapon. Their proud attitude, with heads erect, contrasts with the downcast look of the prisoners.

The army in action is displayed in the next two registers. It is divided into two corps, the foot troops and the charioteers. And we cannot help admiring the free imagination, the naïve charm in the forceful presentation by the primitive artist of a battle scene so full of life and motion. The solid legion has formed a line with lowered lances pointing forward. All wear the uniform: the scalloped kilt, the copper helmet fixed by a strap under the chin, a mantle covering both shoulders and fastened by a clasp on the chest. The dots in groups of three, four, and five which decorate the mantles make the soldiers look like the pieces of a game of dominoes, giving somehow the impression of knaves in a pack of cards, which would have pleased Alice in Wonderland. In fact these are not dots but the spots of leopard skins, as we see from the animal represented on the triangular end. The skin served as a material for the soldiers' heavy coat, which was thrown over the back of the chariot when not used, or spread on the seat as a blanket.[1] Nothing could disturb the order of this solid rear line. Their grasp on their lances betokens perfect drilling, and while the practised eye of a sergeant-major might see irregularity in the openings of the mantles, the ordered tramp, tramp of their feet would have swollen with pride the builder of an empire. Three sons of an old Sumerian king on a famous limestone relief[2] wear their mantles in the same manner, fastened with a clasp and covering both shoulders. The soldiers of the front line are already engaged in an action, the issue of which is not doubtful. The enemies are prostrate, wounded, stripped, bound, and captive, so dexterously can the Sumerian warrior handle battle-axe and lance, as shown in three different groups. One prisoner is being handcuffed. The soldier next to him brandishes his lance over a fallen enemy. The third wipes the blade of his axe and feels the cutting edge after dealing a blow. The bodies of the fallen enemies are drawn with much liberty and a daring attempt at perspective and foreshortening

[1] MUSEUM JOURNAL, June, 1927, p. 150.
[2] MUSEUM JOURNAL, September, 1926, p. 258.

of proportions, both here and in the case of the bodies of the enemies run down by the charioteers. The Sumerian soldier in action has discarded his great mantle and thrown his plaid over his left shoulder. A fringed stole over the left arm of one of them is an unusual garment, perhaps the loin cloth of the enemy and a part of the spoil which belongs to the victor. More enemies, nude and wounded, are

The old Sumerian stela. The triangular ends. Heraldic, mythological subjects.

driven on by the charging infantry. Some of them still keep their lances and their loin cloths closing in front and having narrow fringes. The fight is over and they are fleeing, while one unfortunate man casts a last look on the scene of battle. This part of the stela has evidently suffered and two half figures of men, one nude and the other wearing a loin cloth, have been jumbled together.

The charioteer scene is a pure delight for anybody who has witnessed a charge and the long lines of horses sweeping, wave after wave, through the golden dust. If the first team of asses walks composedly enough, the second has struck a lively pace which becomes a full gallop and a mad dash in the last two. The foremost driver with his goad or two-pronged dart and his henchman brandishing a lance is thrown backwards and the man on the step has to hang on desperately. Their raised heads answer to the raised heads of the animals, to their springing bodies and their flowing tails. Weapons, lances, axes, dresses, helmets, kilts, and plaids are the same as those worn by the infantry. The crumpled nude bodies of the enemies litter the ground.

The reverse is not less interesting. Here we see the pleasures and abundance of peace opposed to the violence of war. The king presides over a banquet amidst his sons or officials and drinks a cup of the best mountain wine. The seats are remarkably elegant. Servants hustle about and a woman singer, we imagine, recites in cadenced verses the great actions of the battle accompanied by the harpist striking in time the eleven cords of his small harp. So the women danced, and sang that King Saul had killed his thousand but David his ten thousand. In the registers below there is a real pageant of servants bringing the requisites of the feast and also the spoils of war. Bulls, goats, a ram, a lamb, and four big carp fresh from the river will supply a royal meal. The safe leading of the lively bulls is no easy matter. A rope is attached to a ring in the beast's nose, and the first cowboy pulls it high to prevent any unruly tossing, while the second has wound his arms, like a wrestler, round the threatening horns of the bull, ready to throw it. What would our Wild West think of that ancient East? The manner in which the shepherds carry a lamb—or is it a young gazelle?—or hold a ram by the curved horn and fat tail has not changed since those early days. The goat-herd armed with a short stick or a whip drives his animals from behind. For accuracy the heads of the goats nos. 2 and 3 ought to be placed a little forward to balance properly over their forelegs. Goat no. 1 belongs to a different species, the Markhur goat, with spiral horns, long pendent ears, a beard, and a tucked-up tail. A headman carrying his staff of office introduces the procession, which is divided into two main groups headed by figures with clasped hands. These have no special attributes and are perhaps foremen or officials.

In the last register two teams of asses with their drivers, and pack carriers of two types are divided into two or three groups headed by their foremen, if such are the figures with the clasped hands. The first driver walks rope in hand at the head of the procession and evidently ought rather to be placed at the head of his asses, which is his proper station as exemplified by the second driver. One of the pack carriers bears the bundles on his shoulder but the second uses a framework resting on his back and secured by a rope passing round his forehead. This way of carrying heavy burdens strangely recalls Indian basket carriers or jar carriers from old Peru. The carriers and the foremen have long hair, the asses' drivers are shorn like the rest of the servants above, except the men who bring the lamb and the ram, who wear long hair and beards. This may be a professional as well as a racial distinction. Bedouin shepherds in the desert let their hair grow. But slaves and prisoners of war of different races may have kept their own mode of hairdressing and costume. It is remarkable that all the figures in the last register wear a kilt closing behind or a loin cloth opening in front, with short fringes. The kilt with short fringes is very different from the kilt with long laps worn by the Sumerian officials, or from the better one worn by the king. The loin cloth opening in front is the proper dress of the vanquished enemies. The careful drawing may correspond to a difference in race and rank and also to a difference of material, wool or linen. The only figure—unfortunately incomplete—in the third register who wears the Sumerian kilt with long laps which closes behind, is probably another headman introducing the second procession.

Animal figures borrowed from the common repertory of heraldry and heroic hunting fill the triangular ends of the stela. We have the passant leopard, the couchant lamb, the rampant goat, the conventional branch and star flower with eight petals, in a landscape of hills represented by a pyramid of dots or curves. A hunter, dagger in hand, has seized about the neck a rampant ibex caught amidst bushes and hills. The hunter may be a hillman, an Elamite, with long hair and beard (?), very different from the completely shorn Sumerian. He wears the fringed loin cloth of the enemy, closing in front. The lines of his body are more elongated and graceful, the knees are bare for action. The typical, shorn, stumpy Sumerian wears a bell-shaped woollen kilt closing behind. The long laps hang down the middle of his legs. The panels are reconstructed and the scene is not clear, but he is certainly not a hunter, and is

Shell plaques engraved with mythological scenes and set in the sounding-box of a harp (?) below the bull's head of gold and lapis.

probably raising his hand for some ritual action. The goat rampant amidst bushes and hills with head turned back is probably out of position, and the straight post supporting an emblem[1] is the object which ought to have been placed in front of the Sumerian worshipper. The middle, incomplete panel certainly represented a fight between bull and lion as seen below in the decoration of the harp.

The very ancient mythological group of the lion-headed eagle perched on the back of the bearded, man-headed bison, which he masters and lacerates "unguibus" if not "rostro," deserves special attention. The composite monsters are in the tradition of archaic Elamite art. The mythical bird is the master of the bull. By no means is he picking off flies and bugs as has been irreverently suggested. The eagle is above all an emblem of royalty, domination, and power, and such has been his meaning through the ages, whether he flies over the heads of Assyrian kings, or before Roman legions, or on Greek, German, French, or American coins. The spread-eagle found in so many coats of arms of old Sumer and of modern countries is the triumphant bird seizing its prey with its talons. He is the emblem of gods of war worshipped in different cities under different names, Ningirsu, Nin-Urash, In-Shusi-nak. Under the name of Imgig he figures in the coat of arms of the city of Lagash, devoted to Ningirsu, where the type of an eagle with a lion's head is well established and is contemporary with the drawing of many figures in full face. But there was more liberty in the past and we find spread-eagles and eagles in profile, with normal heads and with lions' heads, capturing two animals or perching on the back of one. Their prey may be bulls, antelopes, lions, stags, ibexes, even ducks.

The bull may be passant, couchant, or rampant. It may be the wild mountain bull with widely spread horns, the primitive urochs, or the bison with crescent horns and long locks, which in old Elamite drawings has tufts of hair below the chin. The last has been transformed into the man-headed bison which has the face of Gilgamesh, before it becomes the bull-man Enkidu. The spread-eagle may even have a double lion's head, which was a favourite device in the time of Gudea and on a few ancient Elamite seals, but he should not be confused with the birdman Zü, who steals the tablets of destiny, carries the dead bison on his shoulders, has a wife and son, and is killed by Lugalbanda in Khashu, the unknown mountain. Many a seal in the Museum collections represents the capture and judgment of the

[1] Cf. MUSEUM JOURNAL, June, 1927, p. 150.

Zü bird and his disgrace, which can never be imputed to the royal Imgig bird.

The inlay stela,[1] according to Mr. Woolley, is as a work of art unparallelled, as a historic document invaluable. It was found beside the shoulder of a man buried in a side chamber of the oldest of the royal tombs, almost intact as it was executed by the craftsmen of 3500 B. C. It is an elaborate example of inlay work in shell, lapis lazuli, and pink limestone. The two large plaques were set back to back at a slight angle, with the triangular pieces between their ends, and the whole may have been mounted on a pole so as to be carried as a standard. The tesseræ had for the most part not shifted from their position. What is shown here is not a reconstruction but the original mosaic. Some of the border has been restored; only the triangular ends had been seriously broken up.

The Harp

The harp is the instrument of the poets, the support of the aerial words in which they enshrine joys and sorrows, memory of the past and hope immortal. David sang to the harp to soothe the brooding heart of Saul. A harpist and a woman singer stand by at the king's banquet. Gudea of Lagash presented to his god Ningirsu "his beloved harp named Usumgal-kalamma, the sonorous and famous instrument of his council. The portico (?) of the harp was like a roaring bull." It served to accompany the sacred prayers which were said in the court, together with the clang of the cymbals. "Along with the flute it filled with joy the courts of the temple." The temple singer used it "to appease the heart, to please the joyous humour, to wipe tears from the eyes, to release the pain of the suffering heart." The singer in his recital is likened to "the storm of the Ocean, to the tempest on land, to the soft purifying waters of the Euphrates. The young girls of the harem, the seven twins of the goddess Bau, placed close to him, pronounce the good words. With the flute, the cymbals, and the harp they fill with joy the courts of the temple."

The harp of Gudea is represented on a limestone relief. It is rectangular in form, with a large sounding-box and an upper bar in which the keys are fixed. It has eleven strings spreading fanwise from the box to the upper bar, towards the left angle behind which

[1] Museum Journal, March, 1928, pp. 31–33.

sits the player, playing with both hands. A passant bull, probably of gold, stands on the sounding-box, and another bull's head decorates the front of it.

The little harp represented on the stela also has eleven strings, and is decorated with a bull's head. The sounding-box has the shape of a couchant bull, with an inlaid collar and an inlaid band across the body. The harpist plays while standing. A band passing over his shoulders may help to carry the instrument. An opening in the sides of the box makes the sounds clearer and mellow.

Another type of harp with eight strings is represented on a shell plaque to be studied below. It is played by a seated donkey and belongs to a very interesting mythological series. With three other plaques it was inset as a decoration below the splendid horned bull's head in gold, with its large beard of lapis. Bull's head and plaques were possibly part of a harp of the same type.

The harp found in the queen's grave had also a sounding-box decorated with a calf's head of gold and lapis, with shell plaques engraved with mythological subjects, and with bands of inlay.[1] The woodwork, which had perished, has been carefully restored in the British Museum. According to Mr. Woolley the harp has twelve strings, but the position of the keys on the upright is not clear, pending further restoration. The calf's head and the engraved plaques deserve attention.

The calf's head, without horns, which decorates the queen's harp, is made of gold and lapis, like the bull's head found in the king's grave, which may also have been part of a harp. Both are wonderful examples of ancient Sumerian art. The same technique was applied to both.

"The head all except the ears and horns was hammered up from a sheet of thin gold and set over a wooden core. The horns and ears made separately were fixed to this. Under the chin a deep cut was made in the wood, the edges of the gold being bent into the cut, and here was inserted the beard. The base of this was a wooden board on which the tresses cut of lapis lazuli were set in bitumen, while the back and sides of the board were concealed by a plate of thin silver seamed by silver nails. The upper part of the woodwork went right up into the wood of the head and was made fast to it by nails driven through the crown. The gold did not cover the crown at all. Here the wooden core left exposed was coated with bitumen

[1] MUSEUM JOURNAL, March, 1928, pp. 11–13.

Calf's head of gold and lapis on the sounding-box of the queen's harp.

and into the bitumen were laid the lapis lazuli locks of hair, each separately carved.

"The eyes of white shell with lapis pupils enclosed in eye sockets of lapis were secured by copper bolts to the wood core of the head. The many superciliary folds are typical of Sumerian art. A strip of gold nailed on behind the horns completed the neck and a narrow band of mosaic in shell and lapis formed a collar to mark the distinction between the metal head and the wooden body."

These are beautiful pieces of work, curious and refined. The association of full and low relief with engraving betrays the very spirit and taste of ancient Sumerian art. The result of such inlay is very striking. The polychromy of the materials, shell, lapis, gold, red limestone, and bitumen adds new unforeseen effects. The animal forms are heavy but original and powerful. The types, studied from nature in familiar attitudes, are strikingly true. The first sketch fixed the essential forms of each species. The artists of the best periods will have nothing to change to reach perfection, more refinement but not more character.

Animal life is a favourite motif of Sumerian art. The animals are drawn in familiar poses, couchant, rampant, running, fighting, according to well-established types. Legendary and fantastic compositions alternate with these monotonous repetitions: lion-headed eagle, bearded bull, scorpion-man.

Sumerian religion gave a large place to spirits, demons, genii, embodying natural forces. This religious and primitive instinct of the race inspired the artists to create monsters, fantastic beings composed of several animal forms, which were sometimes combined with human forms. In Elam long before, when no god had ever been represented as a man, the animals were given strange human attitudes, in an effort to express the *mens divinior*.

The bearded bison was known to and represented by Elamite artists, with graphic details of locks and tresses, which the wild bull can never claim. But the actual blue lapis beard below the golden head is a human attribute of the hero-hunter Gilgamesh, mighty as Nimrod. The proper attribute of the gods, under human form, is the horned mitre. It is true that the great Moon God of Ur is called the young bull of heaven and his blue lapis beard is famous in religious poems. But the divine harp, Usum-kalamma, roaring like a bull, is not necessarily the great Moon God Nannar or any great bull of heaven.

Calf's head of gold and lapis on the sounding-box of the queen's harp.

The front of the harp below the golden calf's head is decorated with four shell plaques engraved with animal figures, in natural or fantastic composition. Engraving on shell is a purely Sumerian art. The drawing is done with a hard point on dull shell with scarcely visible relief. The plaques of shell of small dimensions were cut from the pivot axis of certain univalve shells of the species *trito* or *melo*. Drawing with the point is the most primitive, the simplest, and the most abstract form of art. Bodies are reduced to a single contour line with no thickness. Engraving and drawing are one at first, whether on metal, shell, or mother of pearl. Strength is the ideal of the engraver. His tracing is surprisingly strong, somewhat heavy but full of expression, done with a very accurate hand, but cutting a uniform line. Even inside the contour, the tracing of muscles or the detail of manes and feathers is not a shade lighter. The ambition of the artist is strong uniform work in sharp contrast on the white background. The filling of the lines with black and red paint betrays his delight in life and colours.

Each subject is framed by a straight border line. The intentional order of the figures, the need for symmetry and the heraldic composition of confronted animals is from the beginning the characteristic mark of Sumerian decorative art. Figures *en face*, always very difficult, and the abundance of minute and systematic details are a daring attempt at reproducing life. There is the same power in the daring attitudes, the heads turned full face, the raised tails, the bristling manes full of a rude energy.

The four subjects selected are the lion-headed eagle seizing two leaping ibexes—or antelopes (?); two bulls rampant in a thicket of plants; the bull-man Enkidu holding up two leopards by their hind legs; a hunting lion at grips with a rampant bull, seizing its neck in its jaws.

The lion-headed eagle alighting on the back of a bull, bearded or not, is one of the strongest motifs in the old Sumerian picture gallery. The same figure in the same angular, rude style is found on several primitive seal cylinders. The spread-eagle is a military emblem on the Stela of the Vultures. The spread-eagle with a lion's head, seizing in its talons lions, stags, gazelles, bulls, ibexes, or ducks, is one of the fantastic composite animals of the archaic Elamite style. In Sumer it has become a heraldic device, the coat of arms of many war gods, Ningirsu of Lagash, Ninurta, and probably In Shushinak of Susa. His name is the Imgig bird. He is not flying, but has wings

spread and flapping in the act of seizing his prey. Pieces representing a feather, cut in red limestone, white shell, and black bituminous stone have been found at Lagash. All are pierced at the back for attachment by copper wire to a wooden board. When assembled they must have formed the wings, body, and tail of the Imgig bird in natural proportions. The red, black, and white must have been contrasted in the checkered lines of colours as represented on the engraved plaque. Separate heads of lions, or of lion-headed eagles in the round, with a mortise for the reception of a tenon at the back must have completed such decoration in the style of the reconstructed Imgig panel of Al 'Ubaid.

On the engraved plaque the neck of the lion-eagle is short, the ears well developed, the mane figured by three wild locks. The talons are closing on the prey sideways as usual in Elam, and not in front as on the vase of Entemena. The two rampant animals are a species of goat-like antelope like the chamois. It is said that the berkout, the Oriental golden eagle, catches hare, fox, antelope, ibex, wolf, and boar.

The mountain bison with the red thick coat and short, round crescent horns still lives wild in the Caucasus. The urochs with diverging horns from which descend the modern tame cattle is today extinct. It has no beard or locks of hair and is a favourite motif, represented as rampant in a thicket of conventional plants in a landscape of hills. The big buds of the plants sometimes spread into star flowers.

The bull-man Enkidu holding up by the hind leg two leopards is a classical figure of the cycle of the heroic hunters. His counterpart is Gilgamesh holding two leopards by the tail. Eabani is in profile and wears a belt and the beard, locks, and horns of the man-headed bison. The twisted bodies and threatening heads of the enraged animals are remarkable. The strong heraldic symmetry is everywhere prevalent.

The lion attacking the bull is known from other examples which prove the strong school traditions of the Sumerian artist. The lion has stopped the onrushing bull, seized it round the neck, and is biting it in the shoulder. His head is turned full face. The mane is treated in the great, energetic style of Mesilim, back in the time of, if not before, the early kings of Kish.

The Gold and Lapis Bull's Head

This bull's head in gold with a beard made of lapis is a magnificent example of the old Sumerian art of the same style as the calf's head decorating the queen's harp. It was probably part of another harp, buried in the grave of the unknown king. "A row of engraved shell plaques ornamented the front of the figure set between the legs just below the level of the beard."

The beard transforms the bull into a legendary animal. The square muzzle regarded *en face*, the crescent horns with tips of lapis, the large open eyes with superciliary folds, and the quick flapping ears have a superior vigour. We almost expect to hear the bellowing voice.

But the greatest surprise is provided by the four engraved plaques below, unrivalled for the energy and beauty of the drawing, and their richness in mythological subjects. All betray a master hand and a strong Elamite influence, animals playing the parts of men, composite animals given human arms and faces, a scorpion-man, animal musicians of types unknown except on Elamite seal impressions. Gilgamesh *en face* protecting two man-headed bisons is a classical Sumerian model and the head of the scorpion-man seems to be a copy of the oldest inlaid figures from Kish. The lion rampant may have inspired the carving of the macehead of Mesilim or the engraving on the colossal copper lance from Lagash. But the beautifully shaped jar apparently protected by wickerwork has no parallel outside of Elam. The tracing of the figures is so precise and refined, sober with a gentle charm, that it suggests engraving not so much as painting, such as we expect on Greek vases. But the energetic drawing, the symmetry of subjects, the framing of each panel, and the mythological composition are purely Oriental and Sumerian. The surprise is to find such beautiful works of art at such an early date.

Let us go into details. Gilgamesh, the famous king of Uruk, would be today the perfect athlete. He is the desire of Ishtar, so strong that no wild animal, bull, leopard, or lion, can resist him. The Sumerian artists never tire of representing the hero in close contests with all kinds of rampant or fallen animals. The type of Gilgamesh in full face, with long locks on either side, and the long curls of an imposing beard carefully arranged below his chin, is comparatively recent and betrays a change in manners and school. Older figures of the glorious hunter show him in profile with wild locks and no beard. We know how fond the Sumerians were of soap and razor. Their completely shorn heads are always conspicuous.

Bull mascot on a rein ring of silver mounted on the pole of the king's chariot.

The beard hanging below clean shaven chin and lips may be an artificial ornament that would go far to explain the lapis beard of the golden bull. It was the current fashion for kings and gods at the time of Urnina and later as seen on the Stela of the Vultures. Wigs may have added a borrowed splendour to bald Sumerian heads, as evidenced by the gold wig of King Meskalamdug. Men with natural short hair and beard, generally servants, shepherds, butchers, masons, musicians, and hunters of the older Elamite type, are represented mingling with shaven Sumerians. We may suspect a mixing of races which must have existed very early in that country. The Sumerian soldiers and the king are all shorn, while their enemies—and some of the servants—have short hair and beard. The confusion begins with the long locks—evidently of a wig—with which they cover their heads even when at war and which make them look like women in the absence of a beard, false or not, or other signs of sex.[1]

Hair and beard of Gilgamesh may have been natural. Even in the days of wigs some men used to wear their own hair. But we are evidently on legendary ground, where the hairiness borrowed from kingly state would convey the superhuman strength and dignity of the semidivine hero. The Gilgamesh face with hair and beard is the product of a classical conventional school. The same face has been given to a composite monster famous to the end of the Assyrian empire: the man-headed bison. In exchange the bison's horns placed on the head of a human king or queen will be a symbol of divinity.

Gilgamesh is nude except for the triple belt with which he has girded his loins.

The second panel represents an extraordinarily interesting ritual scene where the parts of the priest and of the assistant are played by animals. The butcher priest with his knife in his belt who carries the portable altar is a mastiff with a short tail, of the type found on Elamite seal impressions. There also he plays quaintly the part of a shepherd milking a goat from behind, assisted by a fox who holds the goat by beard and horns. The cane (?) altar with uprights reinforced by crosspieces, is of an unusual type not unlike an hour glass. On it are piled choice pieces, a leg of lamb, a calf's head, and the head of a bear. The dog is given human hands and arms to carry the altar—the *Gi-gab* Sumerian altar. The knife is a

[1] MUSEUM JOURNAL, March, 1925, p. 40.

copy of the gold dagger with the lapis handle and the rivets affect the same triangular shape.

The assistant lion is a splendid example of a rampant figure that would grace any coat of arms. The drawing of the old Sumerian artist has fixed forever a classical type rarely surpassed. The treatment of the mane, represented by a series of imbricated tufts of hair of triangular shape, has an archaic vigour also found on old Sumerian works of art, the mace of King Mesilim, the great copper lance of Lagash. The lion carries in his hands a lamp and a jar of wine. The lamp—some original examples in gold and silver have been found in the graves—has that peculiar form evolved from a sea shell, "out of conch cut in two so that the valve at the end might serve as a groove to support the wick." The jar may have been painted, or more likely was protected by a network of fibre, like the modern Italian *fiaschi*. It was carried in the same way by a loop of cord attached to the basketwork. Jars of the same type, enigmatically connected with lions or leopards, with a graphic representation of the fiery liquid overflowing are found in the Elamite repertory of seal impressions. The leopard is the familiar animal of Bacchus. The wine instils into men's hearts the courage of the lion. The mother of King Lemuel used to tell him:

> "Give strong drink unto him that is ready to perish,
> and wine unto those that be of heavy heart."

There is no ritual sacrifice without ritual music: the sound of the harp and the clanging of the cymbals. Animal musicians fill the next panels. A seated donkey plays on the harp upheld by a bear which one might swear was dancing, if its hands were not so firmly fixed on the frame of the harp. This is friendly and needful aid, since the donkey has both hands and ten extended fingers busy with the strings. The minute tracing of the fingers on either side of the cords is remarkable and in the best tradition of Sumerian art. The head of the donkey is a close study of nature, as are also the other animal figures. The curve of the back is well marked, outlined by the second upright of the harp, which looks like a false tress of hair. The strong strings spread fanlike from the sounding-box to the upper bar, to which they are attached by a double knot. They are eight in number. The slit in the sounding-box, just above the point where they are attached, makes it more resonant. We have seen that the bull's head, here probably of gold and without beard, is part of the

traditional decoration of the harp. Even the rest of the sounding-box affects to copy the body of a couchant bull. A band of inlay separates the metal head from the wood of the box.

The figure of the bear is very unusual, but its rough hair indicated by markings, its short tail and legs, the lump on the shoulders, and the whole bearish attitude of head and arms are very characteristic. No doubt we are to look to the neighbouring mountain land of Elam for its original home, as well as for that of the small animal sitting at its feet, shaking a rattle and drumming on a board. This animal is, as far as we can judge, more like an ichneumon than a monkey. Its connection with the bear and the donkey musicians would delight any folklorist. When first met on Elamite seal impressions it was described as an "unidentified feline species, often seated on its hind legs like a man. It has two small round ears and a sharp nose. Its tail is long and thin. It is represented playing with a small fox and holding it by the tail, catching flies, holding long streamers, or sitting in a boat, oar or harpoon in hand. This animal may be a giant ichneumon or a monkey."[1] A connection between foxes and musicians, or musicians with a fox's tail, seems possible in certain Elamite seal impressions.

Finally the scorpion-man strutting in front of a rampant chamois is the most extraordinary figure of the set. Is he supposed to symbolize the wild spirit of the dance, his nipping claws transformed into human arms and hands, his long jointed tail ending in a curled up venomous sting above a pair of human feet, his head with the finely plaited hair and beard of the approved Kish style? The objects in his hands are unfortunately indistinct, but might be prehistoric castanets. Scorpions and tarantulas have always been thought to cause fabulous dancing diseases. The same wild spirit animates the rampant chamois, jumping like the "kids of Engadi." What seem to be small tumblers in its hands are probably rattles or cymbals. The beautifully shaped high jar at the back with a rectangular piece—or pipe—set at an angle in the mouth probably gives the last touch to a complete picture of a feast with dance and music. Nothing so rich and full of importance for a study of old Sumerian art and history has ever before come out of the field. With the other objects found in the pre-dynastic graves at Ur, these beautiful masterpieces revolutionize our idea of Mesopotamian civilization in the fourth millennium B. C.

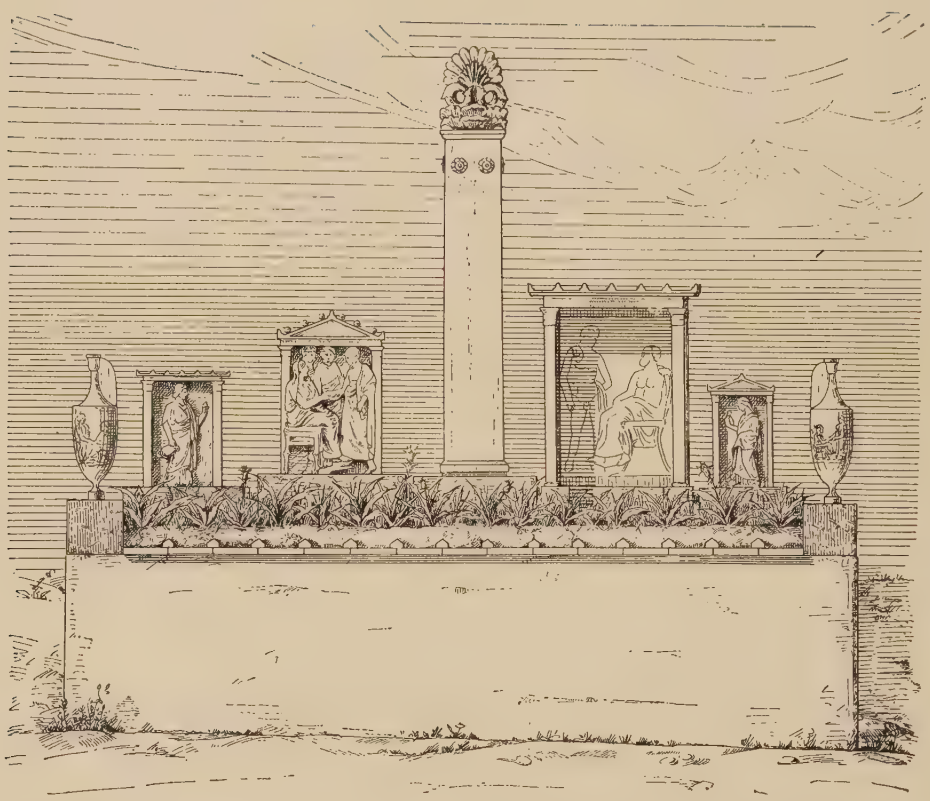
[1] Del., t. XVI, p. 22.

The Bull Mascot

As part of a wholesale burial of guards, servants, wives, and singers, in a shaft round the grave of the king, were found two chariots with grooms and teams of oxen. "Inside the shaft proper, standing as they had been backed down the slope came two wagons, clumsy four-wheeled affairs, each drawn by three oxen. Of the wooden wagon little was found, for wood cannot endure the soil of Ur. The oxen wore wide collars of silver decorated with patterns in repoussé work and had large silver rings in their nostrils. On the reins were strung beads of silver and lapis lazuli and they passed through rein-rings of silver surmounted by a mascot in the form of a bull." The queen's chariot had an electrum mascot in the shape of a donkey.[1] A passant lion decorated the pole of the state chariot of Ningirsu, patron god of Lagash.

The Baghdad Museum has claimed as its share the bull mascot. It is a magnificent example of Sumerian art in modelling and casting. Animal figures have always been a favourite subject in Sumer. The wild bull on the glazed bricks of the Ishtar gate is the last beautiful copy of a classical model. The copper bull in the round from Al 'Ubaid proves how early the Sumerian artist had fixed the characters of a type never surpassed. The short body, the powerful front legs and chest, the raised head and the perfect arc of the horns, the natural attitude of the brute arrested in his walk and full of irresistible strength in its immobility, are a monument to that far back ancestor the Sumerian artist, so close and dear to us for his technical skill, his creative power, and his cult of beauty.

[1] Museum Journal, March, 1928, pp. 17, 21.



Restoration of a family plot in the cemetery of the Kerameikos, Athens.
From Brueckner, A., and Struck, A., *Der Friedhof am Eridonos*, p. 71, Fig. 43.

THREE GREEK GRAVE MONUMENTS

By Edith H. Dohan

IN Greek thought as in Christian, it was held an act of virtue to bury the dead, or rather, since the soul wandered helpless and hopeless until the body was laid to rest, it was considered an act of impiety not to give it burial. Only those who merited the extreme penalty were denied the solace of burial rites. What these rites were is known from Lucian's *De Luctu* and from the many vases on which are depicted the prothesis or laying out of the dead and the funeral procession itself. A flute-player and the mourners walked behind the bier, and after the body had been interred or cremated, for both practices were followed in classical Greece, the family returned to the house of a relative to partake of the funeral feast, of which the dead was regarded as the host and by means of which the living established communion with the dead.

The place of interment was without the city wall and generally along a highroad in order that, in a land of dust and mud, the graves might be accessible for the offering of gifts and also doubtless that passers-by might see and admire the funeral monuments erected above them. Along the Sacred Way from Athens to Eleusis, the tombs of the dead interspersed with shrines and sacred precincts extended for many miles. It might be thought that the traveller approaching Athens by this highway would be oppressed by the sight of so many tombs. But the Greeks, despite their belief in a dim and shadowy hereafter, were less troubled by the reminders of death than the Christian who professes a livelier hope. Indeed, the monuments along the Sacred Way were one of the sights of Greece. The antiquary Polemo devoted an entire book to their description and Pausanias, who travelled that road in the second century after Christ, made notes, which fortunately are preserved to us, of the most important monuments which he saw. Generals and ambassadors, the painter Heliodoros, the tragic actor Theodoros, were among those whose tombs Pausanias admired. It was a great scandal that, near the pass of Daphne where travellers from Eleusis first catch sight of the Acropolis, the Macedonian Harpalos, chargé d'affaires for Alexander, erected a tomb in honour of the courtesan

Grave stele of Pentelic marble. Height, 95.5 cm.

Pythionike at a cost of $100,000. Such extravagance in setting up funeral monuments was more than once the object of special legislation at Athens. Shortly after Solon's time a law was enacted forbidding the erection of a tomb more elaborate than could be built in three days by ten men. This law seems to have fallen into disuse, for Demetrios of Phaleron had a law passed forbidding other monuments than a short column, a flat slab, or a vase. As a result of these measures most of the grave monuments found in our museums today date from a period which falls between the Persian wars and 300 B.C.

Just outside the Sacred Gate at Athens, which, like the Gate of Sorrow in Burma, was devoted to the use of funeral processions, was the potter's field or Kerameikos, and here the graves were so numerous as to constitute a veritable cemetery. To the beauty of the monuments which were set up here Cicero paid tribute when he spoke of "amplitudines sepulcrorum quas nunc in Ceramico videmus." The pride and pomp of the Sacred Way has vanished, but the grave monuments of the Kerameikos, preserved through the centuries under an unusually deep deposit of earth, have been brought to light in our time and may well be considered the most beautiful monuments ever erected to the dead. The excavation of the Kerameikos was begun by the German Archæological Institute before the war and has lately been resumed by German scholars with funds given by a citizen of Reading, Pennsylvania. Thanks to these researches it is now possible to form a picture of how the sculptured monuments so prized by our museums today were placed. They were set not on the level of the roads but on high podiums of masonry, a conjectural restoration of one of which is shown on page 248 together with the monuments which surmount it. It will be seen that more than one type of stone was used within a family plot; for some members of a family a tall shaft was erected crowned by an anthemion, for others a naiskos or stele deeply set with a gabled roof, for others a flatter rectangular stone. At the corners of a plot and serving as akroteria for the whole construction are set marble lekythoi adorned with the same types of sculptured ornament as are found on the stelai.

The UNIVERSITY MUSEUM has recently acquired three Greek grave monuments which, although their provenance is unstated, were probably set up along some Attic highway, since the material in each case is Pentelic marble. The first of these (page 250) is a

Lekythos of Pentelic marble, foot and upper part of neck missing. Height, 83.2 cm.

fragmentary stele on which is preserved the figure of a seated woman and the bare legs of a smaller figure facing her. Only a portion of the drapery of this second figure is preserved, above the knee next the woman. It seems to indicate the short cloak or chlamys worn by men and boys when travelling and suggests that

Mother, father and daughter from the marble lekythos.

the scene represented a young boy taking leave of his mother. The costume of the woman is of some interest. Her sheer undergarment is pinned with brooches along the arms to form sleeves. In the heavier outer garment occur at intervals pairs of short lines which represent the woven pattern of the material and were originally picked out in a colour contrasting with that of the robe itself. The

longer lines which appear on the shoulder and breasts also represent woven stripes once coloured.

The second monument (page 252) is a marble lekythos of the type which appears at the corners of the restored plot on page 248 and which is to be regarded as a translation into stone of the clay

The mother, Kleostrate, and the father, Pythokles, from the marble lekythos.

vases offered at tombs. Above and below the zone of the sculptured figures may be detected bands of carefully tooled stone prepared for the application of coloured pattern, perhaps the mæander. The German excavators found in the Kerameikos a marble lekythos with a painted mæander below the sculptured field and an elaborate palmette design on the neck, the colours, blue, red, and gold, still

beautifully preserved. On pages 253 to 255 are shown in larger dimensions the three sculptured figures which stand on a slight ledge of marble left in higher relief. A family group is represented; in the centre the father, behind his chair the mother, and grasping her father's hand the young daughter in whose honour we may believe

The daughter, Melitta, from the marble lekythos.

the monument to have been erected. Inscriptions show that parents set up monuments for their children more often than children to their parents. Those who lived to a ripe old age were not so often honoured with a monument as young warriors who died in battle or young wives who died in childbirth. Although the execution of these figures is somewhat summary, they are conceived accord-

Loutrophoros of Pentelic marble. Height, 80.3 cm.

ing to the best Greek tradition. The simple coiffure and the dignified mien of the mother continue the noble traditions of sculpture of the fifth century. There is no trace of the staff on which the hand of the central figure rests, and since there is no perforation between the fingers for the insertion of a staff of bronze, it follows that it

Mother, father and daughter from the marble loutrophoros.

was once rendered in colour. And if the staff, so also the garments, the hair, the chair. The inscriptions also which are carved above the heads of the figures were doubtless coloured. The mother's name is Kleostrate, the daughter's Melitta. The letters over the father's head do not spell any name nor are they a possible combination. They are ΙΤΧΘΟΚΑΗΣ. Professor Roland Kent of the

University of Pennsylvania, who has made a special and authoritative study of mistakes in Greek inscriptions, kindly examined these letters for me and offered this very plausible explanation. The stone-cutter was illiterate. The names given him to carve, probably written on a wax tablet, were carelessly formed and the first and

The mother, Demokrateia, from the marble loutrophoros.

second letters of this name were actually ΠV but seemed to him to be ΙΤΧ. The man's name was therefore Pythokles.

Because these figures are named, it does not follow that they are to be regarded as portraits. The Greek sculptor of this period was little interested in the rendering of individual characteristics. His repertory included a wide variety of types and these he com-

bined in different ways to meet the needs of any given monument. The seated man, staff in hand, for example, is a type much used to represent a dignified and respected man of middle age or more. It is closely related to the type used for Asklepios, the god of healing.

The third grave monument is a marble vase of different shape,

The father, Demoteles, and his daughter, Malthake, from the marble loutrophoros.

page 256. The shoulder is rounded in a beautiful curve and still shows remains of bronze rivets by means of which the handles were attached. The remnant of a pour-handle may be seen at the neck. Clay vases of this shape were used to carry water from the spring Kallirrhoe for the bridal bath, and were carried in the wedding procession. If a girl died unmarried, a marble vase of

this shape was set above her tomb in token of her marriage to Pluto. That it was also used for the graves of unmarried youths is shown by a passage in Demosthenes. "What is the proof," he asks, "that Archiades died unmarried? A marriage vase is set up on his tomb."

In the centre of the scene stands the father Demoteles leaning on his staff which, as in the other vase, was once rendered in colour. The figure recalls the elders of the Parthenon frieze or the dignified men who in Greek vase-paintings instruct the youth in athletic contests. He grasps by the hand a slim young girl, whose name Malthake or "soft one" seems appropriate for so gentle a figure. The tragedy of the farewell is scarcely hinted in these two figures, but the mother, Demokrateia, is in the pensive attitude which typifies grief, the same type of figure which is used for the mourning women of the Constantinople sarcophagus. The curving line of her body with the hip thrown outward implies that the sculptor was familiar with the work of the Praxitelean school, so that the vase, in spite of the Phidian look of the other two figures, must be assigned, like the lekythos, to the first half of the fourth century. Neither vase is by a great master but both are far nearer the works of great masters than are the copies which were made in Roman times.

THE T. BROOM BELFIELD COLLECTION OF JAPANESE NETSUKÉ

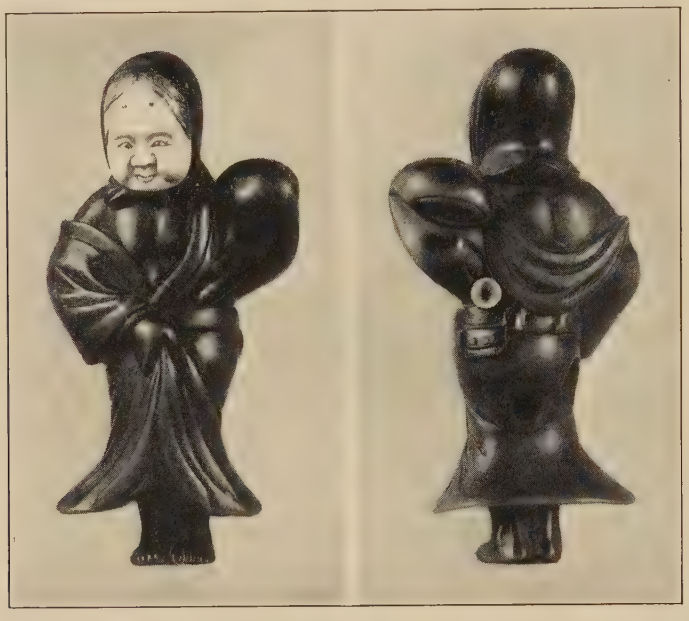
By Helen E. Fernald

FOR flights of pure fun and fancy there is no field of art more prolific than that of the Japanese netsuké. The recent gift to the Museum of an extensive collection of these delightful small carvings in ivory and wood, and their exhibition in Pepper Hall, have been a source of keen enjoyment to many during the last few months. These netsuké, together with other small ivory carvings and one large one, were collected and donated by Mr. T. Broom Belfield, who has long been a member of the Museum's Board of Managers.

Netsuké were articles of use as well as of adornment. They developed in connection with the *sagemono* or hanging things that the Japanese of the last three centuries has worn suspended from his *obi* or sash, the tobacco pouch, the pipe case, and especially the little medicine case or *inro*. The netsuké (pronounced net'ski) was nothing but a button, or toggle, attached to the end of the cord from which hung the pouch, or the inro. During the eighteenth and nineteenth centuries especially, the netsuké was a common dress accessory, worn by merchant, samurai, artisan, and peasant. The poorer people could, presumably, afford only plain and unpretentious ones, but to supply the demand for more beautiful and amusing examples for the gentleman of means there arose gradually a distinct trade, a field of craftsmanship into which some very well-known artists were drawn. Many artists devoted their lives to the carving, inlaying, and painting of these small objects until the art of the netsuké carver attained a height unequalled, in the estimation of many, by any other class of ivory carvings in the world. For human interest, high technical skill, and originality, many of these delightful little objects surpass anything else akin to them.

The method of wearing the netsuké may be seen from the illustration on page 262, which shows an inro with its cord and attachments. The two ends of a cord which serves to hold the compartments of the little case together, one end issuing from each side, were brought up to meet above the case, where they were run through a button, called an *ojimé*, which could be made to slide up

or down on the cord, thus loosening or tightening the loop. Further up on the cord the two ends were passed through a hole in the netsuké and tied in a tight knot. When the inro was worn, the cord was tucked under the belt so that the inro hung below it and the netsuké above acted as a stop which prevented the cord from slipping down. Small inro of light weight could be held in place by small toggles; large heavy tobacco pouches might require large or long netsuké to anchor them firmly to the sash. The manner of wearing the inro is seen illustrated by one of the netsuké themselves. A charming



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Netsuké in wood and ivory. Uzumé, the Laughing Goddess, wearing pouch with netsuké.

piece in the Belfield Collection is the small girlish figure, carved in wood, of the chubby Uzumé, goddess of mirth, standing wrapped in her kimono with a dainty pouch hung from her sash at the back. The hood is of very dark wood to contrast with the light-brown wood of the body, while the face is of ivory like the tiny round netsuké which holds the pouch in place.

Netsuké were usually made of wood or ivory, but other materials were also used, such as bone, horn, pottery, porcelain, metal, lacquer, tortoiseshell, mother of pearl, coral, and stones of various kinds. Combinations of these materials were very skilfully devised, the most usual and pleasing being that of wood and ivory. Many of the

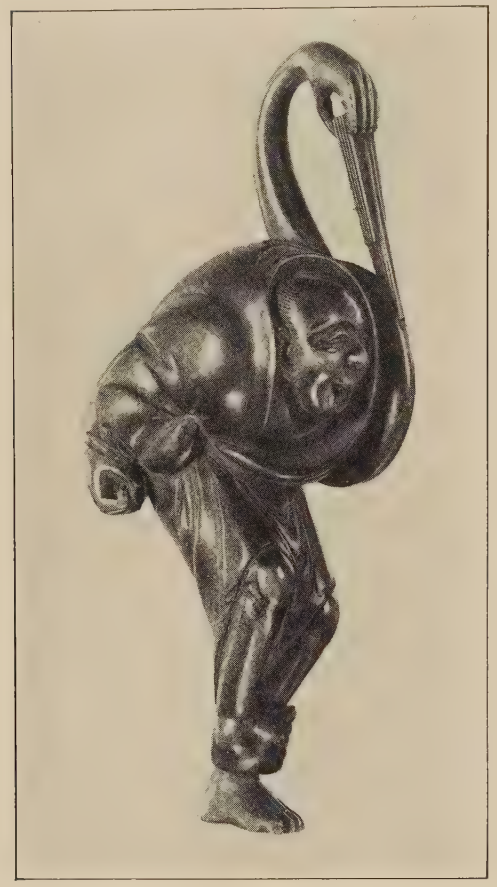
best artists worked only in wood and, as might be expected, the simpler netsuké are generally the finest. The chief woods employed were cherry and box. Occasionally a black wood, possibly teak, was used. In the early nineteenth century there were some extremely clever artists who preferred ivory. We find them using the fine white grained variety of elephant ivory, the coarser walrus ivory, and the beautiful mellow so-called "fossil ivory." Other small figures were carved also but a netsuké may be recognized by the marks of its use, the two connecting holes through which the cord was run. Occasionally one finds that an object not originally intended as a netsuké has been pierced with holes so that it may serve as one.

It is believed that the *manju* type of netsuké, the round flat button in figure 50, was the earliest, that the carving in the round of a small spherical button developed next, and that the more elongated figures, the masks, and such variations followed soon after. Certainly all types were in use together in the eighteenth and nineteenth centuries.

These small works of art fall naturally into groups according to their subject and it is intended to publish from time to time groups of the more interesting netsuké in the Belfield Collection, with the stories they illustrate or the subjects they represent. Since these carvings were made for the commoner as well as for the aristocrat, they cover a wide range of illustration and allusion. Legends and folklore supplied an enormous amount of material; historical subjects and heroes never fail; mythical peoples, gods and goddesses, historical personages and events, scenes and people of everyday life, animals real and imaginary, fishes and other creatures of the sea, illustrations of proverbs, little masks in imitation of those used in the Nō dances and other theatrical performances, figures of the dancers themselves, dragons, birds, fruit, and even the lowly vegetable, all are represented in a variety of ways, in various materials, and usually with a whimsical humour. Parodies abound. One rarely meets with actual caricature, but to poke fun of a good-natured kind was the order of the day and the amusing is depicted with unmistakable comic appreciation. One of the finest netsuké in the collection, for instance, is that here illustrated (figure 9). It represents a laughing man posturing as a crane by standing on one leg, hunching his back, and curving one arm high over his head to form the neck. The long fan is held so as to imitate the beak of the bird. The way in which the performer wraps his left leg around the other is shown in a most comical fashion.

The wood is dark, highly polished, and delicious to the touch. It is a delightful piece. The signature reads Ryū-Kei. This artist lived in Yedo, apparently during the middle of the eighteenth century, and his work was highly praised by his countrymen.

The netsuké carvers had respect for neither gods nor men. Especially do the venerable characters of religious history suffer at their hands. Bodhidharma, the twenty-eighth Indian Buddhist patriarch, revered in Japan as Daruma, founder of the Zen sect of Buddhism, was often the butt of their jokes. The small seated figure shown on page 275, figure 11, represents him, it is true, much as he appears in the serious religious paintings of the time, but the smile is decidedly jovial and the earrings ridiculously prominent and incongruous, being made of ivory set into the dark wood. This netsuké is signed by Shū-min, an artist of the eighteenth century. The other netsuké of Daruma shown on the same page treat him with small reverence. According to Chinese records, Daruma arrived about 526 A. D. at the court of the Emperor Wu Ti in Nanking, then the capital of China. Having offended Wu Ti by failing to appreciate his good works, Daruma departed, crossed the Yang-tsze on a reed, and proceeded to Loyang, where he lived in the Shao-lin Temple. For nine years, it is said, he sat there in meditation, his face to the wall. This was a subject not to be resisted by the netsuké carver! Figures 14 and 15 represent Daruma enjoying a good yawn and stretch at the end of his nine years of inactivity, and it is evident from the expression on his face that the patriarch has found his



9

Netsuké of wood: man posturing as a crane. Signed: Ryū-Kei.

joints rather stiff. Figure 16 shows him seated in meditation, wrapped in a brocade cloak. The face here is very typical, with its squarish shape and mouth drawn down at the corners. One of the jolliest netsuké of all is that of figure 17, a little Daruma in red lacquer and ivory. His body is entirely swathed in the red cloak, his ivory face screwed up humorously in a grimace. Figures 10 and 12 show him crossing the Yang-tsze, in the latter case on his own fly-whisk. And finally we see the lengths to which the netsuké carver would go illustrated in figures 13 and 18, for Daruma is there pictured as having lost his arms and legs through disuse and having become a sort of Humpty Dumpty who must be carried about and cared for by a priest. The priest in one group, the ivory netsuké, is rolling him along the ground and in the other, the wooden netsuké, has tied a rope around him and is carrying him on his back.

Hotei, one of the Seven Gods of Luck, is a favourite with the netsuké makers and is always treated humorously. He was an enormously fat god, always laughing, and was much beloved by children. He carried a huge linen bag (from which he took his name, Ho-tei) full of the Takaramono, precious things, and he sometimes slept in this bag. Figure 20 on page 277 represents him as he most commonly appears, playing with a child. There is no mistaking the fat half-clothed body and laughing face. Even the ear lobes are huge and fleshy. He carries the child pick-a-back and holds a fan in his left hand. Figure 21 illustrates a very good netsuké of Ho-tei sitting in his bag, while figure 19 shows a most unusual and delightful one in which the bag of precious things is so large that the fat Ho-tei carrying it on his back is fairly dwarfed beneath it.

The figure with the exceedingly high bald cranium is Fukurokujiu, another of the Seven Gods of Luck. He is the Japanese counterpart of Shou Lao, the Chinese god of longevity, who seems to have had his origin in Lao-tzŭ, a sage of the sixth century B. C., the founder of Taoism. Because Fukurokujiu is the god of long life, he is represented as old and bearded. The mask netsuké, figure 26, illustrates the character of his countenance, one rather typical feature being the three lines between his eyebrows. He is usually accompanied by the symbols of longevity, such as the deer, the crane, and the tortoise. Figure 27 shows him riding a stag and figure 22 depicts him as a tortoise, or holding his cloak in such a way as to simulate the shell. Children are fascinated by his elongated skull, and many netsuké represent him playing with children who climb upon his huge

bald pate or run along at his side, as in figure 25. He is shown in figure 24 stretching and yawning as if in imitation of Daruma. Most amusing of all, however, is the fine wooden netsuké pictured in figure 23 in which the god's cranium is represented as so enormously high that the barber, who appears to be the god Daikoku in this case, must climb a ladder in order to shave its top.

Shōki, the Demon-Queller, appears constantly among the netsuké subjects. Although he is properly a purely mythical being, he is connected traditionally with a historical personage, a student who lived in China during the early T'ang Dynasty. Having failed in the Imperial examinations he committed suicide. When the Emperor heard of this, he gave orders that this student, Shiushi Shōki, should be buried with high honours. In gratitude for this Shōki's spirit promised to spend its time forever in expelling demons from China. This story appealed tremendously to the carvers of netsuké, who depict Shōki as a fierce but rather impotent menace to the demon tribe. Dressed in armour and carrying a huge sword, he hunts demons and occasionally catches one, but is more frequently shown as the loser in the chase and the victim of their pranks. Figure 29 reproduces a fine ivory netsuké signed by Hidémasa. The scowling Demon-Queller has caught one small *oni*, or demon, by the hair and is fiercely looking around for the other, quite oblivious of the fact that that imp, grinning gleefully, is hiding on the top of his big hat. Shōki's beard and the hair of the two oni are coloured black and details of the armour and embroidered cloak are beautifully engraved. Figure 31 shows Shōki being tormented by an oni which has climbed upon his back. One of the most amusing examples of the Shōki subject is that illustrated in the netsuké of figure 28. Here he has caught an oni and has tied him securely into a roll of matting which he carries on his back. With folded arms he stands listening to the oni's cries of rage while an expression of complacent self-satisfaction announces: "I've disposed of *him*." Again Shōki appears, foiled this time, in a delightful wooden netsuké, figure 30, where he peers down a well after an oni which has descended the well rope to escape. The little demon, incidentally, serves as the ojimé.

The strange looking people who appear on the same page as the Shōki netsuké are Ashinaga and Tenaga. These mythical men were said to live in North China on the sea coast. The Ashinaga were long-legged men with very short arms while the Tenaga were very long-armed men with short legs. They lived upon fish which

they hunted in pairs. The Tenaga caught the fish with his long arms while perched on the back of his long-legged companion who could, of course, wade far out into the sea. They are often shown catching an octopus, as in figures 32 and 34. Occasionally one is represented separately as in figure 33, which depicts an Ashinaga standing looking helpless and silly with the octopus held tightly in front of him. Ashinaga and Tenaga, shown together, often stood as a symbol of mutual helpfulness and coöperation.

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Netsuké of wood: Shōki the Demon-Queller peering down a well after an oni which has climbed down the rope to escape.

A little goddess of rank similar to that of the Seven Gods of Luck is the laughing Uzumé, goddess of mirth. The most delightful representation of her has already been described (figure 1) but the collection contains a number of other charming examples, for she was a favourite subject and often appears as a netsuké. Her narrow forehead with its two small ornamental spots (not always represented), her chubby puffed-out cheeks, and small smiling mouth make her easy to recognize. Figure 42 shows an adorable little Uzumé in red lacquer with a most exquisitely engraved embroidery design on her gown. Figure 41 is a wooden mask of her and 39 is another carved in darker wood and showing a slight variation from type in the arrangement of the hair, which is usually parted in the middle and drawn smoothly back on each side. She appears again in figure 43, a cluster of eight masks carved in ivory, and including a Kitsune (fox), Hiottoko, Obeshimi, two oni and others. Uzumé's full name was Ama-no-Uzumé-no Mikoto and she is first mentioned in myth as one of the goddesses who helped to entice Amaterasu-ō-mi-kami, the sun goddess, out of the cave in which she had hidden, a story of early Japan which will be told in a future article.

On page 273 may be seen two small netsuké illustrating the story of Kiyohimé. According to this legend, the holy monk Anchin was accustomed to stop at an inn at Masago whenever he came on pilgrimage to a certain shrine near by, and here he would play with the innkeeper's little daughter Kiyohimé, pet her, and bring her small presents from time to time, never dreaming that he was encouraging something more than affection. But as she grew older Kiyohimé's childish love for the priest became a fiery passion which burned more fiercely with every rejection of its proffers until it turned into a mad hatred. In desperation, finally, the monk fled into the temple, the girl in hot pursuit, and hid under the huge bell, ten feet high, which hung there. Kiyohimé, beside herself with rage, dashed wildly towards him. As she approached the bell, the framework supporting it gave way and it dropped down over the priest, imprisoning him beneath it. Foiled, the madwoman flung herself upon the bell, and as she did so her figure began to change, her face became that of an ugly witch, her body turned into that of a scaly dragon. Writhing furiously about the bell she struck it again and again while flames burst out from all parts of her body. Beneath the terrific heat the great bell became red hot and finally melted, Kiyohimé and Anchin both perishing in the molten mass of metal while, praying vainly, the horrified priests of the temple stood helpless by. A little handful of white ashes was all that was left of the priest, and of Kiyohimé there was not a trace. This legend was made into a Nō play called Do-jo-ji and the story became quite popular. Figure 3 shows a fine netsuké of Kiyohimé in a rage. It is made of wood lacquered and gilded; the hair is bright red, and the face, hands, and feet are of ivory. Kiyohimé coiled about the bell is the theme of figure 4.

Kuan Yü, the Chinese god of war, is the subject of a number of netsuké. He is shown in figures 6 and 7, dressed in Chinese costume, holding his long beard with the left hand while his right grasps a terrible halberd. In figure 6, which is of "fossil ivory," he wears armour in combination with his robes. Kuan Yü was an actual historical personage, a seller of bean curd in the time of the Three Kingdoms. In 184 A. D. he fell in with Liu Pei, a man of royal descent and of the military profession, and with Chang Fei, a blue-eyed, red-haired butcher who owned a garden. It was there that the three swore the famous "peach garden oath" of fast friendship, that they would share the same fortune and fight, live, and die together.

The exciting adventures of the trio are well known in Chinese history. Liu Pei finally became master of Ssŭchuan and ruler of the Minor Han Kingdom (221–223 A. D.). Kuan Yü was one of his most powerful generals, a man famed for his prodigious feats of bravery and strength. He was renowned also for his faithfulness to his friend. One of the best known stories about him concerns his actions at the time he was captured by Ts'ao Ts'ao. The Ladies Kan and Mi, two of the wives of Liu Pei, were also among the prisoners and all were sent off to Ts'ao's capital together. While on the journey Ts'ao, to test Kuan Yü's fidelity to Liu Pei, assigned his three most important captives to the same bedchamber. But Kuan Yü foiled the tempter by standing all night at the door of the room holding a lighted candle in one hand and his drawn sword in the other, as guard and protector to the sleeping ladies. Ts'ao Ts'ao admired him greatly and would have had him join his own ranks, but Kuan Yü remained faithful to his old friend and returned to Liu Pei as soon as he was released. As Liu Pei's general, he was his right hand in all the battles and campaigns by which he made secure his position as Emperor of Shu. Kuan Yü was at last captured and put to death by Sun Ch'üan, a rebel brother-in-law of Liu Pei. He was the most celebrated of China's military heroes and was canonized as an immortal in 1128 and raised to the rank of Wang, Prince. In 1594 he was deified as the god of war, Kuan Ti.

Another very fine netsuké is that illustrated on page 273, figure 5. The subject is Tadamori and the Oil Thief. Tadamori lived in Japan in the middle of the twelfth century and was the founder of the great Taira clan. At the time of the incident related in this story he was a young officer in the Imperial Guards. One of his duties was to accompany the Emperor Shira-Kawa-Hono on his visits to his concubine, the beautiful lady Gion Niogio who lived on the other side of the Gion Temple in Kyoto. To reach her house they had to pass through a grove of trees on the south side of the temple. One dark night in May when the rain was falling in torrents the Emperor with his young protector at his side was going by this grove when a strange apparition came stealing in and out among the trees. It seemed to have bristling hair standing out all over its head like shining wire, its face was scarlet, and light issued at intervals from its head. Much alarmed at the sight of such a monster, the Emperor paused while Tadamori went bravely forward to inspect it. As the strange ghostly thing passed him in the gloom and rain Tadamori sprang

upon it desperately. To his surprise it offered little resistance and was soon overpowered. And no wonder, for it was neither ghost nor monster, but a poor temple servant going the rounds of the lanterns in the temple grounds to replenish the oil in them. The dilapidated straw of his rain hat and rain coat had made the impression of bushy hair, and the eerie flickering that had frightened the two travellers so much had been caused by the small torch he held in his hand and which flamed up whenever he blew upon it. One version of the story says that the servant was not replenishing the oil in the lanterns but stealing it from them, hence the term Oil Thief. The netsuké shows Tadamori bravely seizing what he took to be a goblin, while the wretched man, holding his vessel of stolen oil in his hand, laughs derisively.

A few of the netsuké depicting animals, fish, sea creatures, nuts, and vegetables, are shown here on pages 281 and 283. Figure 35 might be termed a "still life" group consisting of various shells: clam, listened to by mermaids; cowry, emblem of wealth; conch with a hermit crab in it; scallop; abaloné shell and sea urchin; two kinds of star fish; and a common crab. Figure 37 is a cluster of chestnuts and acorns, the former being a symbol of success because of a play upon the meaning of the word for chestnut, *kachiguri*, in which *kachi* means success. A tiny ladybug on one of the chestnuts is realistically coloured red and brown. A large frog walks over the shells in figure 40. Figure 38 shows a big gourd, emblem of longevity. The netsuké pictured in figure 36 is rich in allegory, the pair of fish being a Chinese symbol for happiness through a play on the word *fu*, which means fish and also happiness. The fish are lying on some fern leaves, Japanese symbols of exuberant prosperity; a branch with peach leaves is folded over the edge, signifying long life, and the little mouse perched upon them all is a quaint fancy of the carver. Another good fish netsuké is that illustrated on page 273, where figure 8 represents carp leaping a waterfall, a common Japanese symbol of perseverance.

The subject of Japanese netsuké can hardly be mentioned without a word about the animals which are so beautifully represented. Many of them are the most realistic little carvings imaginable. Page 283 shows a group picked out more or less at random from among the dozens in the Belfield Collection. A number of the netsuké artists made a specialty of animals, just as was the case among painters of the same period. Indeed the carvers fell under the

influence of the schools of naturalistic painting which flourished during the eighteenth and nineteenth centuries, the Shijo, Maruyama, and Ukiyo-yè, and just as the painter Sosen was famous for his pictures of deer and of monkeys, and Ganku for his tigers, so Ichi-kwan (or Ikkuan) was noted for his carvings of rats and Tomotada for his oxen netsuké. An exquisitely carved example by Tomotada is illustrated in figure 51, showing a buffalo lying down with halter and leading rope. The modelling is very fine and the hair delicately but richly indicated. Another is depicted on the button of figure 50, engraved in sunken relief, while the willow tree on the reverse is more lightly engraved. This netsuké is, however, signed by Hidémasa, another well-known carver. The horse of figure 48 shows a similar attempt at foreshortening and is a netsuké of very popular type, well suited for the use to which it was put. The ivory puppy netsuké, figure 52, is a very attractive example and has a fine mellowness and pleasing texture.

Monkeys were a favourite subject for netsuké and some of this class are extremely clever and amusing. Figure 44 is an ivory one in which the hair is very realistically engraved and coloured. It gives the impression of being of wood. The monkey is represented as examining through tortoiseshell spectacles—real tortoiseshell—a netsuké carved in the shape of a flower and attached to the cord of a large inro having five sections. It is signed Shō-min. Figure 47 is not so well carved but illustrates the typical humour of the netsuké carver. Figure 49 is an example of parody, the monkey sitting on the goat being intended to burlesque Fukurokujiu riding the stag. Figure 46 is one of Masanao's rats, for which he was famous. The little creature is coiled up into a ball and looks so real that one almost expects it to uncurl and scamper away. Finally the hare of figure 45 must be noticed. This netsuké, of mellow old ivory, illustrates the legend of the hare in the moon, which is a very ancient Chinese symbol of long life. For the hare in the moon pounds the elixir of immortality in a mortar and here he may be seen standing on his hind legs with both front paws holding the pestle while he looks knowingly at you with his mild pink eyes of inlaid stone. Beneath his feet are cloud forms. This delightful little netsuké is signed Shigémasa.

Of the wealth of art and legend, history and everyday life represented in the Belfield Collection these few examples give but a slight idea. Among the six hundred and thirty-four carvings there are netsuké of almost every known type and subject, a veritable storehouse of material for the story-teller and the artist.

2. Inro of lacquer inlaid with abalone shell and stones; 5 compartments.

Ojimé of metal: a shojo seated on its saké bowl holding the drinking bowl over its head.

Netsuké of ivory: a small Karashishi on a pedestal.

3. Kiyohimé in a rage: wood lacquered in red and gold; face, hands, and feet of ivory.

4. Kiyohimé wrapped around the bell: wood. Signed, Min-kō (1735–1810).

5. Tadamori and the oil thief: ivory.

6. Kuan Yü standing with his sword: ivory.

7. Kuan Yü: ivory.

8. Carp leaping a waterfall: ivory.

10. Daruma crossing the Yang-tsze: ivory, by Setsu-sai, 19th century.

11. Daruma seated in meditation: wood, earrings of ivory. Signed, Shū-min, 18th century.

12. Daruma crossing the Yang-tsze on his fly-whisk. Signed.

13. Daruma carried by a priest: wood, by Minkoku.

14. Daruma standing, yawning and stretching, with his fly-whisk at his feet: wood, eyes and teeth of ivory.

15. Daruma seated, stretching and yawning: wood, robe painted red.

16. Daruma seated, wrapped in his robe: ivory (by Ji-aki?).

17. Daruma seated, wrapped in a red robe: lacquer and ivory.

18. Daruma being rolled along by a priest: ivory, by Masahiro.

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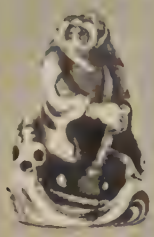

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19. Hotei carrying his bag: ivory.

20. Hotei with a child on his shoulder: ivory, by Yoshi-tomo.

21. Hotei sitting in his bag: ivory, by Kō-gioku.

22. Fukurokujiu holding his cloak so as to simulate a tortoise: wood, by Shū-ichī.

23. Fukurokujiu seated, with Daikoku as barber on a ladder shaving the top of his tall head: wood, by Hō-jitsu, middle of 19th century.

24. Fukurokujiu yawning and stretching: wood, by Shū-getsu, middle of 19th century.

25. Two children playing with Fukurokujiu: ivory.

26. Mask of Fukurokujiu (or Shiwajo?): wood.

27. Fukurokujiu on the stag: ivory.

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28. Shōki, the Demon Queller, standing with folded arms; on his back an oni securely tied up in matting: ivory.

29. Shōki holding one demon by the hair while another hides on top of his big hat: ivory, by Hidémasa, end of 18th century.

31. Shōki, teased by an oni which has climbed on his back: ivory.

32. Ashinaga and Tenaga catching an octopus: ivory, by Tomomasa.

33. An Ashinaga holding an octopus: wood.

34. Ashinaga and Tenaga catching an octopus: ivory.

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35. Group of shells, star-fish, and a crab: ivory, by Gyoku-hō-sai.

36. Pair of fish, leaves, and a mouse: ivory.

37. Chestnuts, acorns, and a lady-bug: ivory, by Gyoku-hō-sai.

38. Large gourd on a vine: ivory.

39. Mask of laughing Uzumé: wood.

40. Frog on shells: ivory.

41. Mask of Uzumé: wood.

42. Uzumé: wood lacquered in red.

43. Cluster of masks including one of Uzumé: ivory.

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44. Monkey examining a netsuké through tortoiseshell spectacles: ivory, by Shō-min.

45. Hare pounding the elixir of immortality in a mortar: ivory, by Shige-masa.

46. A rat: wood, by Masanao.

47. Monkey picking lice from the head of her young one: ivory.

48. Horse: ivory.

49. Monkey on a goat in imitation of Fukurokujiu: ivory.

50. Manju with engraving of a buffalo under a willow tree: ivory, signed Hidémasa.

51. Buffalo reclining: ivory, by Tomo-tada.

52. Puppy: ivory, by Kō-gyoku.

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AN EGYPTIAN KURSI

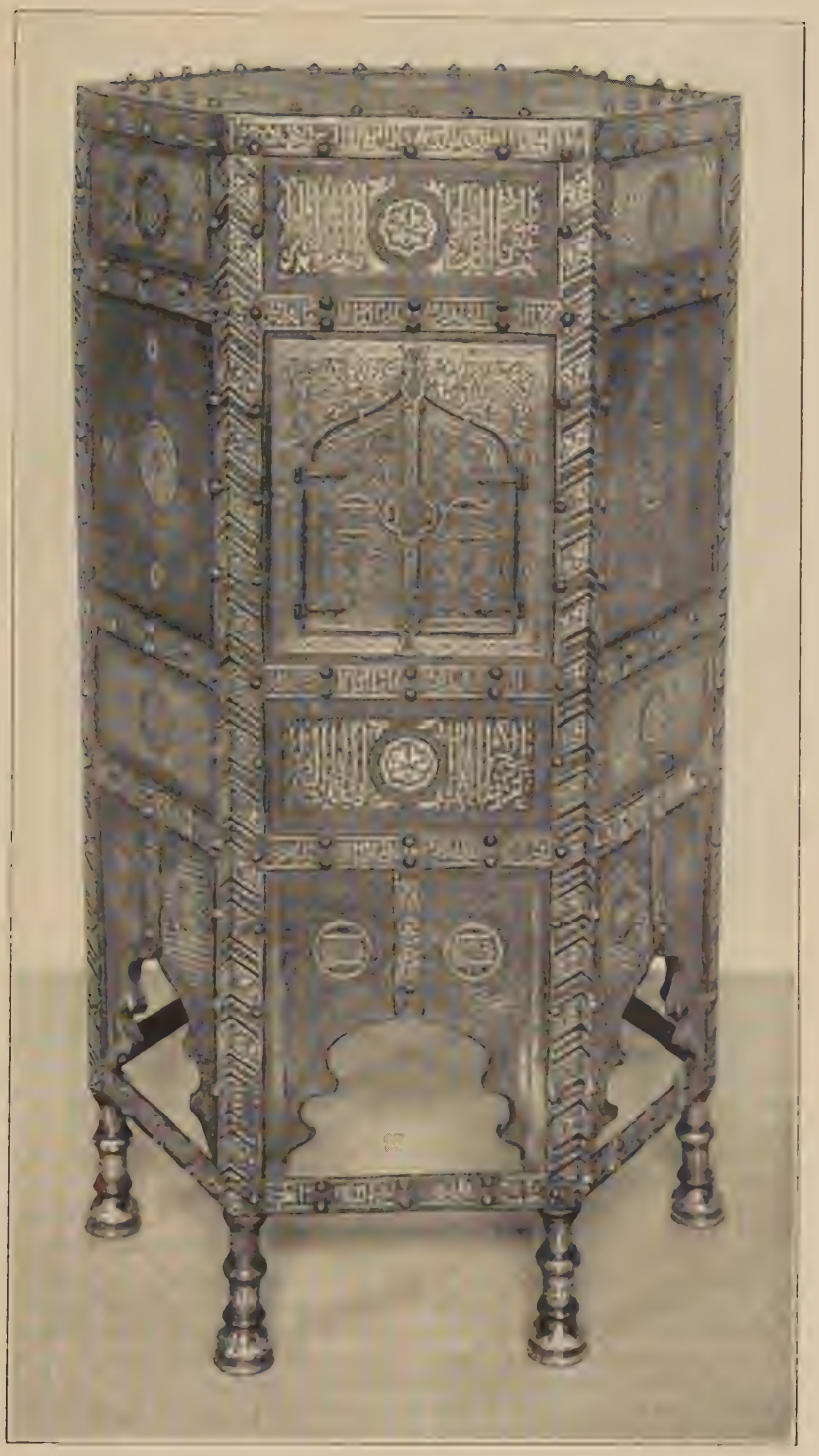
By Cornelia H. Dam

DURING the year 1923 the Museum added to its Arabic collection an exceptionally fine *kursi*, or table, of brass inlaid with silver, which was made for the Mameluke Sultan of Egypt, En-Nāsir Mohammed, in the fourteenth century. Not only is this kursi an exquisite thing in itself, but as an example of Saracenic metalwork it typifies the best period of that craft in Egypt.

After the Mohammedans, in their wars to extend the power of Islam, conquered Egypt in 641 A.D., they ruled it for the succeeding three centuries from Damascus and Baghdad, through governors, one or two of whom, able to assert their independence, were successful in establishing brief local dynasties. In the tenth and eleventh centuries the Fatimite khalifs from Tunis ruled and founded Cairo. Then in 1172 Saladin was sent by the Sultan of Damascus into Egypt to foment revolt; he succeeded in deposing the last Fatimite sultan and, ascending the throne, founded the Ayyūbid dynasty, which was so important in European history at the time of the Crusades.

About the time of the Crusade of St. Louis, to protect himself against invading Franks and rival kinsmen, Sultan Es-Sālih imported from the north of Asia Minor numbers of Turkish soldier-slaves, the *Mamelukes* (i.e. "owned"), who, fearless warriors and loyal servants, frequently rose to positions of wealth and importance in the Egyptian court, and in the middle of the thirteenth century finally usurped the Sultanate.

So began the most brilliant period of Egypt's history under Mohammedan rule, the age when Turkish and Tartar sultans, boasting of their servile descent, ruled Egypt in a ruthless military despotism and fostered to its richest flowering every branch of art. The seventh Mameluke sultan in the first thirty years of Mameluke rule was one El-Mānsur Seff-ed-din Kalāūn, who had been a slave of the old Ayyūb sultan Es-Sālih and never failed in his inscriptions to claim the title of "el Sālehi" which might be translated "liegeman of Es-Sālih." The En-Nāsir for whom our kursi was made was Kalāūn's son and reigned intermittently



Kursi made for the Mameluke sultan Melik en-Nāsir in the fourteenth century.

from 1294 to 1341 A.D. Kalāūn in the Mongolian language means "duck," and so we find the house of Kalāūn using the duck as a blazon, and groups of beautifully inlaid silver ducks such as appear in the corners and in medallions on our kursi at once identify a piece of metalwork as having belonged to the family of Kalāūn.

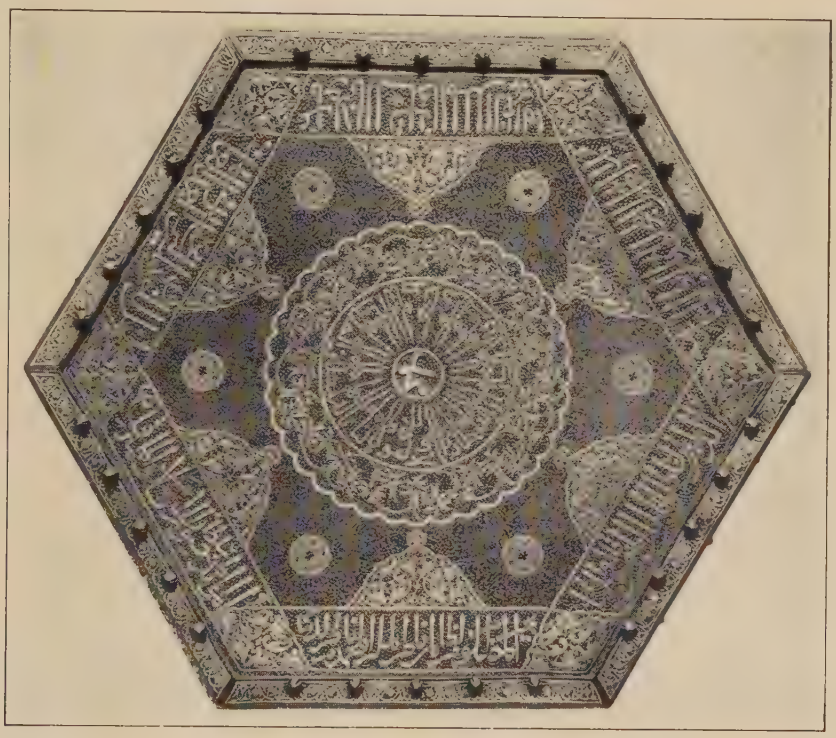
Very little metalwork of the periods in Egypt previous to that of the Mamelukes has survived, so that it is difficult to say whether the superb examples of inlaid brass produced in Cairo in the fourteenth century followed the traditions of older native Egyptian craftsmen, who in turn inherited their style and technique from Greek and Byzantine artists, or whether it is a local development of the ancient Persian craft which must have been imported by the governors of Egypt from Damascus and Baghdad.

The metalwork of Egypt in the fourteenth century, while showing the influence of the craftsmen of Syria and Persia, has a style all its own which, once seen, could never be confused with the other styles. The Persian craft, of which Mosul was the centre, is characterized by multitudinous figures of human and animal forms, elaborately chased, whereas the more orthodox Egyptian work shows a predominance of inscriptions, rosettes, and floral or vine motifs and arabesques. The best work of the two schools can be studied and compared in the Arabic room of the MUSEUM where near the kursi of En-Nāsir stands a superb ewer of the thirteenth century from Mosul.

The patience of the Saracen craftsman, famous in the middle ages from Spain to India for his fine works in metal, is almost beyond our comprehension today. For a table such as the one in the MUSEUM collections, designs would have to be drawn by a first-rate artist and transferred to the sheets of brass of which the table is composed. After patient chiselling had reduced the large panels of the table to the transparent delicacy of fine lace and engraving tools had covered every inch with minute floral patterns, whorls, vines, and arabesques, the work was ready for the silver inlay. This tedious task was accomplished by chiselling out the design to be inlaid and undercutting the edges, after which the silver inlay was hammered into the recesses thus prepared for it and was burnished with agate or jade. Even the inlay itself, except in inscriptions, was elaborately and minutely chased.

This kursi, which is hexagonal and supported on six feet, stands two feet eight inches high and measures nine inches on each side.

The elaborately pierced and engraved plates of which the sides are composed are held in place by heavy tooled and inlaid upright supports studded with ornamental nails at the corners, and by five horizontal bands engraved with the names and titles of En-Nāsir. These bands divide each side into four panels, two small and two large. In the upper larger panel of one side is an exquisitely wrought and hinged little double door which opens into a compartment inside the table. The tray forming the floor of this compartment



Top of the kursi.

is engraved with letters which owing to their position cannot be read. The table was probably used as a support for a fine engraved and inlaid tray on which the food of the owner would be served to him, while a charcoal fire in the little compartment would keep the dishes warm.

The top of the kursi, which is solid and entirely covered with minute engraving, contains the finest work. In the centre of it, in large silver letters, is the name of the Prophet Mohammed. Encircling this is an inscription in beautiful Cufic characters giving the names and titles of En-Nāsir. Outside of this and completing

the large central medallion is a circle of ornamental inlay in a delicate vine pattern.

An inscription runs around the outer edge, parallel with the sides, and interrupted at each angle by charming groups of ducks inlaid in silver. Beginning at the side above the door the inscription reads:

> Glory to our Lord the Sultan, Melik en-Nāsir,
> The just ruler, fighter for the Faith, warden of Islam, celebrated in poetry;
> Having posterity (i.e. to succeed him), son of the Sultan, the Melik Mānsur Kalāūn Sālehi,
> Protector of the oppressed from the oppressor,
> Defender of the Mohammedan Faith, aid of the State,
> The blessed, the victorious Sultan of Islam and of the Moslems, slayer of the infidels and idolators, upholder of justice in the world.

A similar inscription appears inlaid in the two narrower panels of the sides and is repeated on the narrow horizontal bands which hold the sides together:

> Glory to our Master, the Sultan, the Melik en-Nāsir, defender of the State and of the Faith, son of the Sultan, the Melik el-Mānsur, the exalted Kalāūn Sālehi.

On the doors and in the larger compartments of the sides are medallions containing names or titles from the above inscriptions, delicate little echoes of the main design on the top.

The style of metalwork of which this kursi is such a splendid example seems to have developed mainly in the reign of En-Nāsir, to which period the few finest specimens known belong. There are several very similar kursi in the Arab Museum in Cairo, one of which, almost a duplicate of ours, bears practically the same inscriptions. The British Museum possesses a deep bowl made for En-Nāsir, and the South Kensington Museum has a splendid inlaid tray such as must have been used in connection with our kursi.

En-Nāsir ascended the throne when only a child of nine years upon the assassination of his elder brother, El Ashraf Khalif, who had distinguished himself by capturing Acre, last stronghold of the Crusaders in Palestine, and had finally expelled the Franks from the Holy Land. En-Nāsir had a difficult and hazardous career, like most of the Mameluke sultans. He was once deposed and once he abdicated, but from 1310 until his death he ruled suc-

cessfully and magnificently. Like most of the Mamelukes he was treacherous, unscrupulous, and relentless towards his rivals and his enemies and never hesitated to employ assassins or poison to rid himself of a danger. But to the great majority of his subjects he was just and magnanimous. Taxes were lightened and many public works were executed. Besides some thirty mosques he is said to have built numerous canals, fountains, baths and schools, the existing remains of which attest the high pitch of art that architecture attained during his reign.

The magnificence and extravagance of his court seem almost incredible to us today. He kept a standing army of twenty-four thousand Mameluke cavalry, each one having his own fief and villains very much as did mediæval European barons.

En-Nāsir was insignificant in appearance and so lame that he was obliged to use a stick when walking. He was himself no soldier but so astute a politician that he made himself respected throughout the Moslem East and Southern Europe. He left his throne so firmly established that it remained in the hands of his descendants for forty years after his death—a very long time for the turbulent age of the Mamelukes.

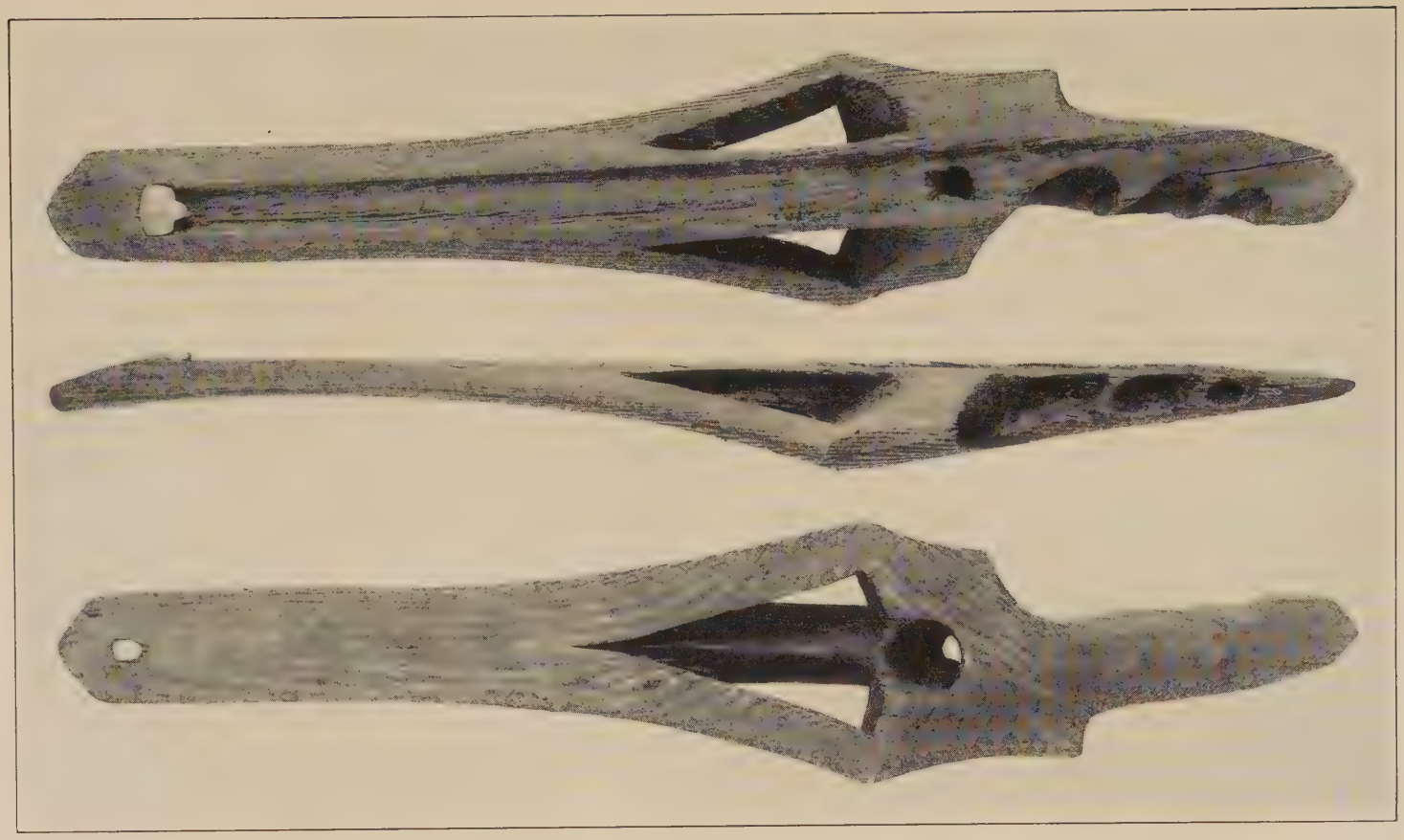
SOME UNUSUAL SPEARTHROWERS OF ANCIENT AMERICA

By J. Alden Mason

THE spearthrower is one of the most remarkable of the inventions of primitive man and for that reason has ever been of great interest to the anthropologist, to whom its history, distribution, and diverse forms reveal much concerning the psychology and racial relationships of its makers. In the older literature it was more often known as a "throwing-board" or "throwing-stick," but as these terms denote a missile rather than an implement, in the last thirty years they have been abandoned in favour of the accepted modern term "spearthrower."

The spearthrower was not only probably the most interesting, but apparently also one of the earliest inventions of primitive man, preceding even the bow and arrow. While the latter is not known from prehistoric Europe, the most ancient region known archæologically, before the Neolithic period, the beginning of which is estimated at about ten thousand years ago, beautifully carved spearthrowers, made of antler and bone, are among the most characteristic objects of the Magdalenian epoch, the last period of the Palæolithic. France and Switzerland have supplied practically all the known examples.

The age of the Magdalenian era is generally estimated at from about 15000 to 11000 B.C. (Archæologists give such estimates with considerable hesitation, for there are no accurate data on which to base them in terms of years, but human nature—and this includes the archæologist himself—insists on such approximations, so the expert must give them to the best of his ability, admitting that they may be incorrect by centuries or millenniums.) Since, however, primitive man the world over, so far as our knowledge goes, made his first implements of wood, a perishable substance which under the most favourable conditions could not be preserved for more than a very few thousands of years, archæologists presume that the manufacture of implements of wood preceded by ages that of the first similar object made of some harder substance. It is reasonably safe to presume, then, that the spearthrower was first invented long before the period represented by the beautifully

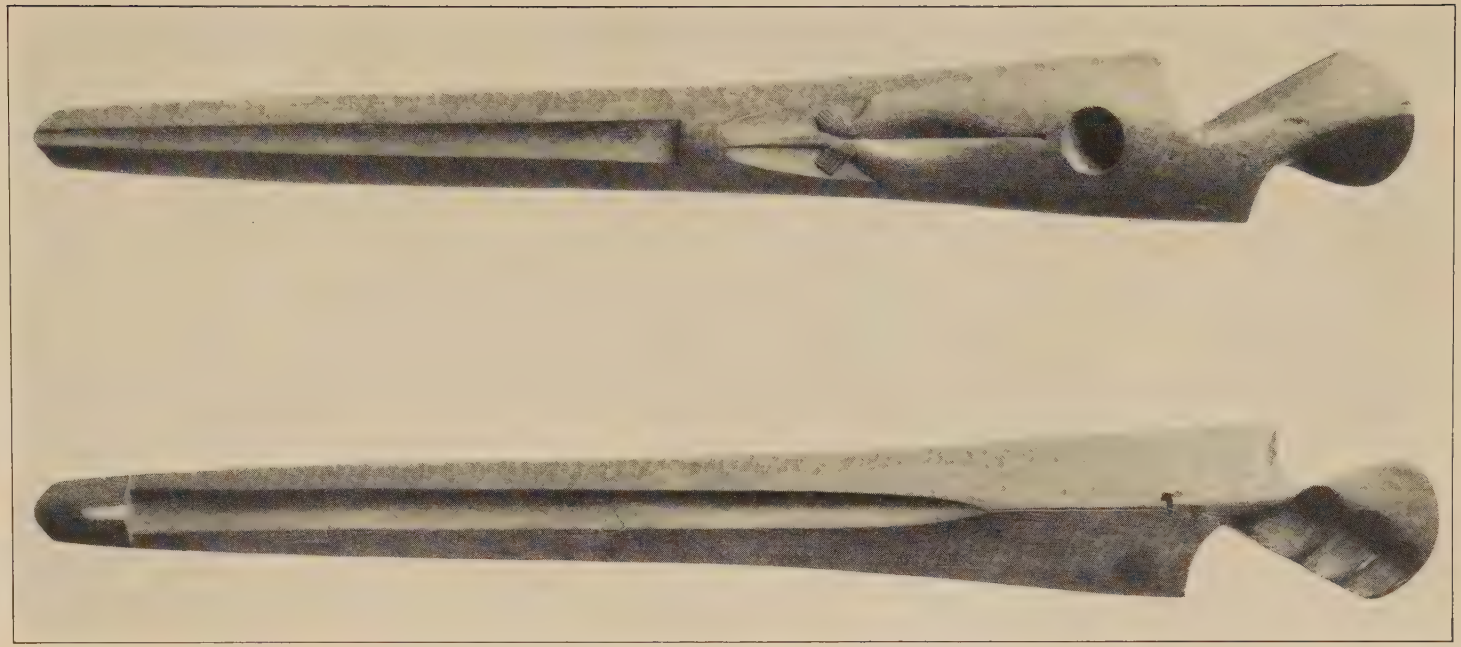


Old Eskimo "Thule Culture" spearthrower from an ancient dwelling at Point Barrow, Alaska.

carved specimens of Magdalenian age, and possibly not long after the first use of the spear itself. Spear points made of bone first appear in the Aurignacian period at the beginning of the Upper Palæolithic Age, possibly twenty-five thousand years ago, but how many millenniums before this spears with points hardened by fire, and possibly thrown by the spearthrower, were used, we can but guess. The spearthrower is, then, an implement of great age.

That the spearthrower should have preceded its more efficient cousin, the bow, is not surprising. Simple as it seems, the latter is a much more complex weapon than the spearthrower. Its invention and manufacture required the realization of the force of springy wood and the possibility of its application and control, and the choice of proper materials for bow and cord. The realization, on the other hand, that greater force, distance and penetrating power could be given to a spear, dart or javelin by lengthening the throwing arm, must have occurred to an undersized warrior soon after first being outranged by a taller opponent. The proof of this is to be found in the Antipodes, the world's uttermost outpost from an ethnological standpoint, where we find an epitome and a recapitulation of the early history of spearthrower and bow. In New Guinea the Papuans, people of relatively low culture, use both the spearthrower and the bow and arrow. The knowledge of the bow has reached Northern Australia, just across Torres Straits from New Guinea, but throughout the rest of that immense island the degraded, or rather extremely backward, Australians use the spearthrower but are ignorant of the bow, while in that Ultima Thule of the world, Tasmania, the now extinct inhabitants who were practically in the Palæolithic Age in the nineteenth century, knew neither bow nor spearthrower.

The spearthrower may be described as a device for lengthening the arm in order that it may give greater speed, and consequently greater distance and penetrating power, to the thrown spear, by means of the greater distance through which the propulsive power could be applied. Thus a man whose arm could be applied to the spear throughout an arc of eight feet—advancing, as is usual, one step during the throw—could, by the use of an ordinary spearthrower, increase this arc to eleven feet. It is claimed that the additional power thus derived increases the speed of the spear several times, so that surprising distances may be achieved by its use.



Alaskan Eskimo spearthrower in the National Museum, Washington, which displays points of resemblance with the "Thule Culture" specimen.

The spearthrower possesses several other advantages over the bow, so that it remained, and even still remains, one of the principal arms of certain peoples rather high in the cultural scale who also possess bows and other more complex weapons. The spearthrower requires but one hand for its manipulation, while the bow and arrow require both hands. The former is therefore better adapted to hunting from boats, especially if the shooting must be done from a seated position. This explains the persistence of the weapon among such relatively highly specialized groups as the Eskimo. For similar reasons it was much employed by the two great empires of aboriginal America, the Peruvians, and the Aztecs of Mexico. Their armies, fighting in masses in more or less open country, used the spearthrower extensively, the left arm probably being employed to hold the shield.

The spearthrower is known from many parts of the world, from prehistoric France, from Melanesia and from Australia as has been mentioned, from Micronesia, from northeastern Asia and from several parts of America. We shall limit our present discussion to the latter region.

Since the spearthrower is obviously an invention of great age in Europe and is found in scattered localities throughout the world, as well as in several widely separated portions of America and among the relics of its oldest populations, it is generally believed that it was not an independent invention in America but was one of the weapons possessed by the original immigrants to America. These, it is believed, were about on the cultural level of the Magdalenian period and probably entered America at about that time.

In America the spearthrower is used at present in only three regions, widely separated. The Eskimo, throughout their vast extent from Alaska to Greenland and Labrador, still employ it as one of their most efficient weapons, certain of the tribes of the Amazon forests still manufacture and use it, and in Mexico, the modern Tarascan Indians of certain villages on the shores of Lake Patzcuaro in Michoacan, though comparatively civilized in most of their life and customs, still employ it in hunting wild fowl from their dugout boats.

In former days, however, the use of the spearthrower was much more widespread. As we have seen, it is probable that, at the time of the first occupation of America, it was universally employed by the slightly differentiated tribes of low culture who covered the

land, but no specimens from this period exist, and the belief is pure theory. Specimens have been discovered, however, from the pre-Cliff-Dweller remains of Utah and the surrounding regions, made by the very early people known as the Basket Makers; from remains of uncertain, though undoubtedly pre-Columbian, age in Florida; from pre-Columbian graves on the coast of Peru and in Ecuador and Colombia; and from the Aztecs of the time of Montezuma and Cortes. The predecessors of the Aztecs, the Toltecs, also employed the spearthrower, as did the Haitians at the time of Columbus, and certain Californian Indians of a century and a half ago. These regions are represented by only from one to thirty known specimens each, all therefore of great value and rarity. The MUSEUM OF THE UNIVERSITY OF PENNSYLVANIA possesses some of the rarest and most famous of these, which, together with several more specimens of exceptional interest recently secured and heretofore undescribed, form the topic of the present article.

A Spearthrower from the Ancient Eskimo Thule Culture

In 1919 W. B. Van Valin was collecting material from the present and past Eskimo in the region of Point Barrow, the northernmost cape of Alaska. One of his Eskimo helpers one day discovered some human bones protruding from a mound of earth. Investigation revealed that a group of mounds in the immediate neighbourhood which had always been considered by the natives as of natural origin were in fact the remains of ancient houses which had fallen in. The modern Eskimo had no knowledge or tradition of any village at that place and it was evident that the site was of considerable age. Excavation revealed, even to unscientifically trained eyes, marked differences between the contents of the houses and those of the present Eskimo. To mention a few points, no tobacco pipes or evidence of the use of tobacco were found, no nets for fishing or sealing, and no labrets, the ornamental plugs inserted through the lips, which are universally worn by Alaskan Eskimo men at the present time. It is interesting to note that, upon other grounds, it has long been believed that the use of tobacco and of nets is of recent adoption among the Eskimo, Van Valin's discovery being corroborative of this theory. The skeletal remains, of which a large and valuable series was recovered, were recently measured by Dr. Aleš Hrdlička of the United States National Museum in Washington, who found that they represent a type rather different

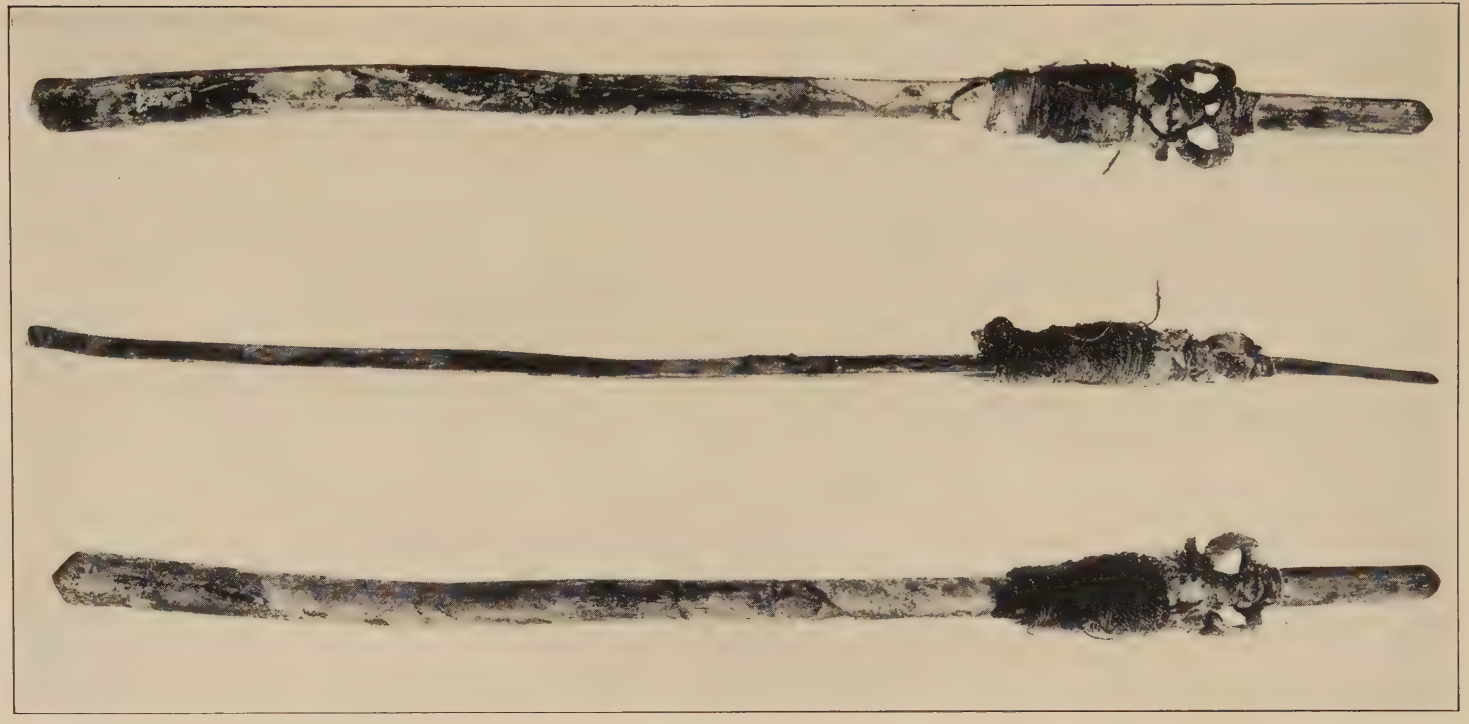
from that of the modern Alaskan Eskimo and identical with the Eskimo of Greenland and Labrador. In explanation of this interesting and important discovery it is suggested that the present rather variant type of the Alaskan Eskimo may be due to his mixture with the more broadheaded Indian of the interior, and that before such mixture took place, at the time of the building of these old houses, the Eskimo physical type was homogeneous from Alaska to Labrador.

The artefacts found in these houses are typical of one phase of what is known as the Thule Culture, the ancient Eskimo culture which, in a relatively homogeneous form somewhat different from that of today, extended throughout practically the entire Eskimo area, at least from Greenland to Bering Strait. In the eastern Arctic the age of this culture is estimated at from about 500 to 1500 A.D. These estimates are based upon changes in sea level, but the same observations do not apply to Alaska. The Thule Culture there is of less certain age, but is probably of practically the same period as that of the eastern area.

Prominent among the artefacts from one of these houses was a wooden spearthrower of unusual type and excellent workmanship. It is difficult to believe that it could have been covered with damp soil even for a decade, not to say many centuries, yet in soil that is permanently frozen and never thawed, organic products will be preserved practically eternally. This has been shown by the discoveries of remains of mammoths with hide and hair intact in frozen tundras of Siberia.

The spearthrower is one of the most typical and characteristic of Eskimo implements. Although the culture of the Eskimo is relatively quite high and they possess numerous most efficient inventions, many more than most Indian tribes, yet they have retained the spearthrower and still make great use of it, mainly because of the ease with which the harpoon can be cast with one hand from their light skin boats or kayaks in spite of numb, gloved hands. The Eskimo spearthrower exists in many different types, each one characteristic of a definite locality. These forms have been studied and classified, so that it is possible to determine, with reasonable certainty, the district where any Eskimo spearthrower was made.

The Eskimo Thule Culture spearthrower illustrated on page 291 is very different from any of the modern types and, what is



Spearthrower of the Basket Makers, the earliest sedentary agricultural people of the American Southwest. This was the first spearthrower discovered from the interior of North America and the most famous of its type.

more surprising, is of superior grade from technical, utilitarian, and æsthetic points of view.

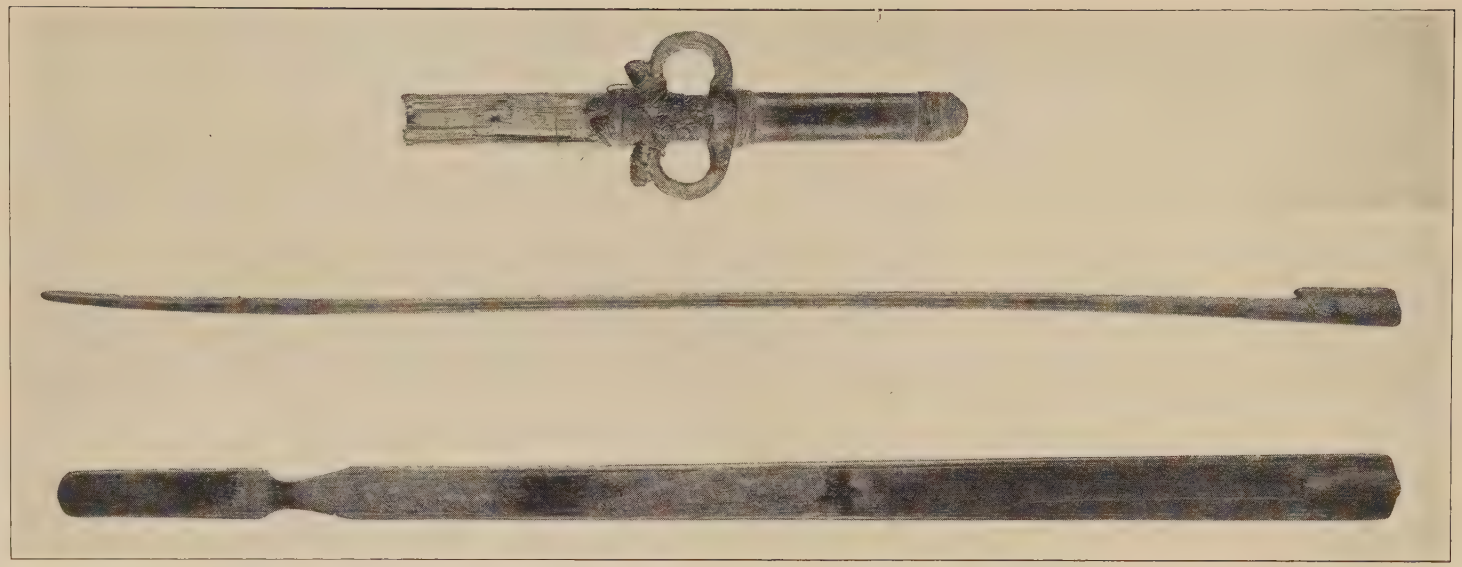
The Eskimo Thule Culture has been carefully investigated only within the last few years. The fullest report upon it[1] states that the Eskimo of that time employed spearthrowers and records the discovery of one complete and one fragmentary specimen. The former is, however, "merely a flat wooden board, 38 cm. long, . . . of a rather primitive type; . . . in the rear end is the one edge slightly incurved for the hand; in the fore-end a large hole for the peg and a smaller one." Found in a site on Repulse Bay near the upper end of Hudson Bay, it resembles to some extent the spearthrowers of this region today, indicating that specialization had commenced even in those early times. It apparently lacks, however, the hole for the index finger which is now characteristic of every type from Greenland and Labrador to Bering Strait.

The old Point Barrow specimen, on the other hand, conforms to the general type of northern Alaskan spearthrowers, having a hole for the index finger on the medial line and grooves for the other three fingers on the edge. The spearthrower which most resembles it is one in the National Museum at Washington which was secured in "Russian America" in 1867 by Commodore John Rodgers and which, since its exact provenience is unknown, is therefore termed the "Rodgers type" by Otis T. Mason in his report on the throwing-sticks in the National Museum.[2] Because of its points in common with present northern Alaskan spearthrowers, Mason put it in that classification, comparing it most closely to the spearthrowers from Kotzebue Sound, the great bay between Point Barrow and Bering Strait. Of this specimen Mason says, "The whole execution of this specimen is so much superior to that of any other in the Museum and the material so different as to create the suspicion that it was made by a white man, with steel tools." It is shown upon page 293. The specimen in the UNIVERSITY MUSEUM is of a type superior even to this and of excellent execution, though the wood is beginning to show the appearance and wear of age.

We may therefore consider our specimen as the finest of the three known complete examples of the spearthrowers of the ancient

[1] Therkel Mathiassen, *Archæology of the Central Eskimos. Report of the Fifth Thule Expedition, 1921–1924. The Danish Expedition to Arctic North America in charge of Knud Rasmussen, Ph.D.*, Vol. IV. Copenhagen, 1927.

[2] Otis T. Mason, *Throwing-sticks in the National Museum. Report of the United States National Museum for 1884*, pp. 279–290 Washington, 1885.

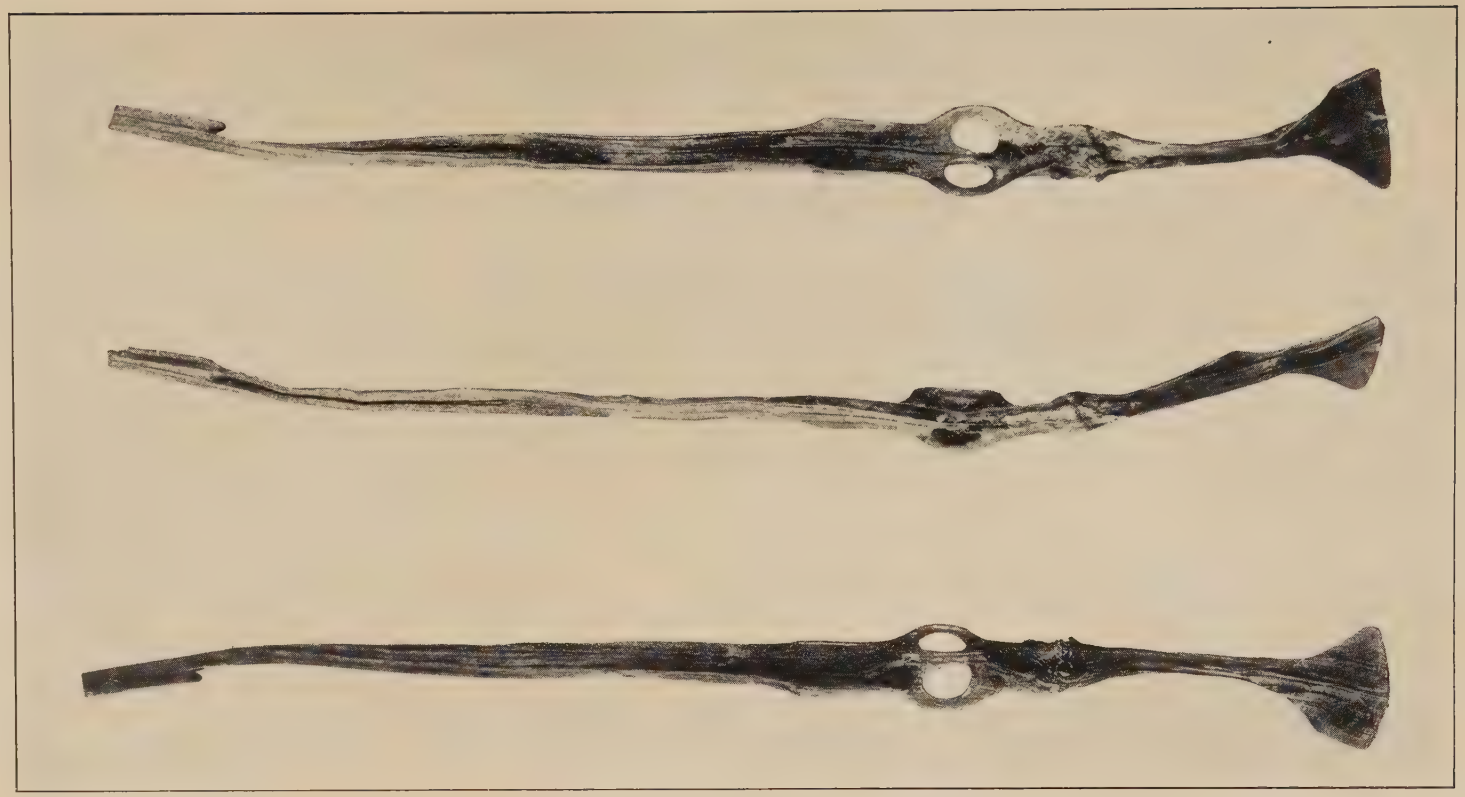


Basket Maker spearthrowers. Of the upper specimen only the handle remains; the finger-loops are missing from the lower.

Eskimo who belonged to the Thule Culture, and as the type specimen of its kind.

The spearthrower is made of a coniferous wood and probably from a log which drifted down the Mackenzie River from the great forests of northern Canada. It measures 14½ inches in length and 2¾ inches in maximum width. The Mathiassen specimen measures 15 inches (38 cm.) in length and the "Rodgers type" specimen 19 inches. The form is not only graceful and artistic but eminently utilitarian and of technical excellence. Its peculiar characteristic, seen on no other Eskimo or Thule specimen, is near the central point where it widens and rises to an angle with lateral and vertical facets. Here the interior is hollowed out in such a way as to leave three rather thin shafts, a main, straight shaft on the upper side, braced by two curving buttress shafts on the lower side. In spearthrowers, the side on which the spear rests and which is held uppermost when in the act of casting it is termed the upper side; it would ordinarily be considered the lower side by the casual observer. The main shaft is of triangular cross-section, the broader side, grooved for the spear, being about an inch in width. The supporting buttresses are of trapezoidal cross-section. This removal of the wood not only adds to the beauty of the specimen, but reduces the weight of the implement without sacrificing strength at the point of greatest strain. This is the principal point in which it differs from the Rodgers spearthrower which is of practically even width throughout. The latter has, however, what is either a prototype or a debased form of this feature in a small carving on the lower side which Mason interprets as "the legs and feet of some animal carved out in a graceful manner." The photograph seems to show the hind flippers of a seal.

In the anterior part the implement is symmetrical, the straight main shaft and the two curving bracing shafts coalescing into a shaft of an inch and a quarter in width and three-eighths of an inch in thickness. The point is curved slightly downwards. The groove for the spear is about an eighth of an inch in depth and widens from half an inch at the anterior end to three-quarters at the posterior. The groove ends at the anterior or distal terminus with an ivory peg having a blunt short conical point which fitted into the butt of the spear. This peg is very firmly set into the wood; although apparently only a small peg and lightly fastened, it possesses a tenon which runs through the wood to the lower side where



Spearthrower with twin finger-holes from the ancient Key Dwellers of the Florida coast. The centuries during which it remained buried in mud have caused it to warp.

it is cut off flush with the surface. The direction of this tenon opposes the line of stress so that it can resist great strain.

The posterior part of the spearthrower is somewhat, though not markedly, asymmetrical, being ingeniously and perfectly adapted to fit the hand, the right hand in this case. In the medial line on the lower side a deep depression is made for the index finger. This depression extends backwards to hold the flexed finger in the strongest position, and perforates the opposite side, in the centre of the spear-groove, in a small hole. It is doubtful if this orifice was intentional since it serves no purpose and might interfere with the easy rest of the spear in the groove. More likely the finger orifice was hollowed out too far, or possibly the orifice was worn through by the fingernail after long use. The same feature, however, was noted on the Rodgers spearthrower.

The rest of the handle is made to fit the thumb and the other three fingers. The part which is gripped is small and slightly eccentric, but the spear-groove on the upper side is continued to the very end, thus differing markedly from the Rodgers specimen in which the shallow groove does not extend even to the hole for the index finger. The two lateral edges are notched at different distances to fit the thumb on one side and the middle finger on the other. On the upper side three deep notches of a size and shape to fit perfectly the three fingers are carved into the wood. These notches are sunk into the groove for the spear, so that it is evident that the fingers could have had no part in holding the spear which apparently lay against or over the finger tips. It was evidently held in place by means of the thumb alone.

Some Spearthrowers of the Basket Makers of Utah

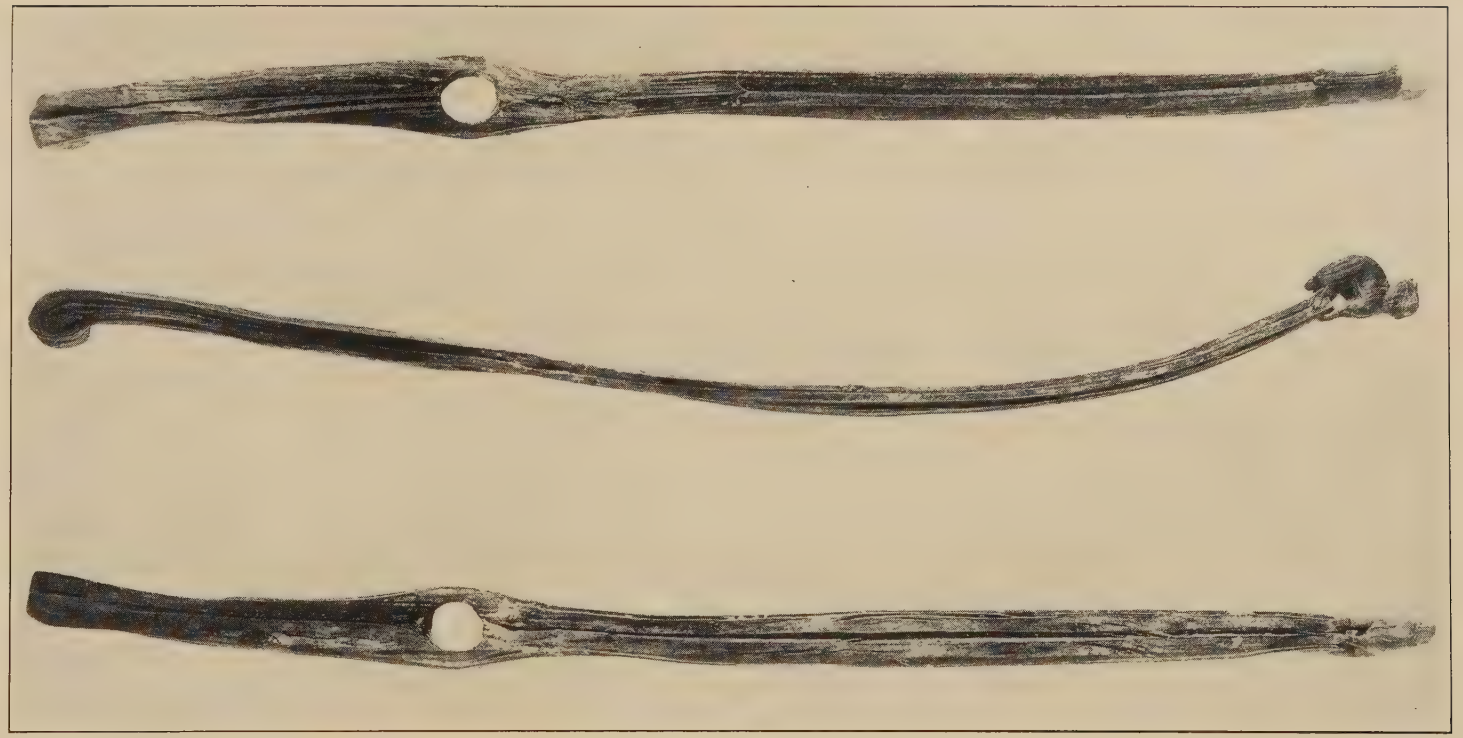
In the arid regions of the American Southwest much intensive work has been done in archæology, so that today we have a clearer knowledge of the sequence of cultures and of the movements of peoples here than anywhere else in America. Many periods are distinguished, based mainly on types of pottery, extending from the modern and recent Pueblo Indians, through the Cliff Dwellers back to most ancient times. At the beginning of the series stand the so-called Basket Makers of southern Utah and northern Arizona, the earliest sedentary agricultural people of the Southwest of which we have any knowledge. Even this knowledge is very slight and is limited to what we can learn from the objects which they left

in their burial caves, for they apparently built no houses which have lasted. They practised agriculture but also did more hunting than their successors, since they were probably the first people in that region to change from a hunting to an agricultural plane of life. Their distinguishing characteristics, however, were their ignorance, or practical ignorance, of pottery, and the manufacture and use of excellent baskets instead, much resembling those of California at present. It is from this characteristic that their name is derived.

One of the characteristic implements of the Basket Makers was the wooden spearthrower which they apparently employed to the exclusion of the bow and arrow. The first spearthrower brought from this region attracted the greatest interest, since it was the first discovery of a spearthrower east of the Pacific, north of Mexico, and south of the Arctic. Several of these spearthrowers were brought out by professional nonscientific excavators before the culture of the Basket Makers was recognized as a separate entity, and thus they became one of the diagnostic characteristics of the culture.

In 1893 one of the great American anthropologists of the last generation, the late Otis T. Mason of the National Museum, was inspecting the archæological exhibit of the State of Colorado at the World's Columbian Exposition in Chicago. His enthusiasm was awakened by the sight of several implements which his professional eye identified as spearthrowers. They were the first of these implements known from the interior of North America and the enthusiastic scientist at once wrote a note to *Science*[1] calling the attention of the archæological world to his discovery. Probably thousands of persons before him had gazed over the collection, but none had realized the importance of the peculiar implements, which were described in the catalogue as "magic wands." Such terms as "magic wand" and "ceremonial object" are havens of security for the amateur archæologist—and often for the professional as well—who can consign any puzzling what-is-it to these capacious omnium gatherums. The collection was probably made by the four famous Wetherill brothers and C. C. Mason (the third of this ubiquitous name to be concerned in this article), and presumably in Mancos

[1] September 15, 1893. Five years later he wrote another letter to the *Internationales Archiv für Ethnographie*, XI, 1898, p. 129. In the latter are published drawings of the two Basket Maker implements and of one of the Florida specimens, all three now in the UNIVERSITY MUSEUM.



Florida spearthrower with single finger-hole. This and the one shown on page 301 are the only spearthrowers known from the United States east of Arkansas.

Canyon, Colorado. The late George H. Pepper, however, in his article on *The Throwing-stick of a Prehistoric People of the Southwest,*[1] avows his certainty that it must have come from the region of Grand Gulch, Utah. After the World's Columbian Exposition these collections, which were or became a part of the Hazzard Collection, were secured by this MUSEUM.

"In the Hazzard Collection in the Museum of the University of Pennsylvania there is perhaps the best series of throwing-stick material available," wrote Pepper; and again, "The most noted throwing-stick from the Southwest is in the Hazzard Collection; it is the first one known from that region."

This famous spearthrower is of further interest in connection with an incident which demonstrates the remarkable knowledge of another of the leaders of anthropological science of a generation ago. The late Frank Hamilton Cushing of the Bureau of American Ethnology at Washington, because of his unexcelled knowledge of the Pueblo Indians, the modern descendants, from a cultural point of view at least, of the Basket Makers, was apparently asked by the then curator of the MUSEUM, Stewart Culin, to prepare the labels for the Hazzard Collection when it was placed on exhibition. His label reads, "Throwing stick of flexible walnut (?) sapling, showing wild cat tooth fastening of finger-loops with 'feather cleaver' or 'lightening stone' (knife or arrow of chalcedony), war fetich stone 'blood-clot' of limonite and wrapping of dyed cotton yarn, originally decorated with bright feather work."

The elements to which Cushing refers are easily seen in the illustration on page 297, but whether his interpretation of them is correct can never be known with certainty. That it probably is is indicated by this most interesting incident which shows not only Cushing's remarkable knowledge of Southwestern ceremonialism—he was adopted into the Macaw clan of the Zuñi tribe and lived five consecutive years among them, becoming second chief of the tribe and Head Priest of the Bow—but also the extreme age and conservatism of ceremonial concepts in that region.

Cushing expressed to Culin his opinion "that a piece of turquoise, explained by him as the heart of a fetishish (*sic*) bird, was concealed beneath the heavy wrapping of brown yarn that binds

[1] George H. Pepper, *The Throwing-stick of a Prehistoric People of the Southwest. Proceedings of the International Congress of Americanists, 13th Session, New York, 1902,* pp. 107–130. New York, 1903.

the finger loops of the prehistoric throwingstick from Mañas[1] Cañon, Colorado, in the University Museum." This is recounted by Culin in a short article entitled "An Archæological Application of the Röntgen Rays,"[2] in an early publication of this MUSEUM. X-rays had at that time just become perfected for medical purposes and Culin conceived the idea of confirming Cushing's hypothesis by this means. Radiographs[3] revealed four beads, presumably of turquoise, under the wrapping. "I may add," says Culin, "that the extreme fragility of the wrapping is such as to render an examination by other means impossible without serious injury to this valuable object." The present writer quite agrees with Culin on this point.

This spearthrower measures twenty-five inches in length and is apparently made of a split sapling which varies from three-quarters to one inch in width, the greater width being at the anterior or distal end. It is curved laterally to a slight degree, but this is probably unintentional and due to warping, although in some regions, such as Australia, spearthrowers with a pronounced intentional lateral curvature are found. The lower side retains the natural semicircularity of the twig, the upper half being relatively flat with a very shallow groove in the medial line for the spear. The notch in which the end of the spear rested consists of a rectangular excavation about an inch long, three-eighths of an inch wide and one-eighth deep, the farther side of which is extended out in a spur. The spearthrower was apparently originally wrapped with a strip of hide wound around it in a spiral, traces of which still remain.

The handle or proximal end is of greatest interest on account of the ceremonial objects placed there. Nearest the end are twin finger-loops made of rawhide, now much shrunken and distorted from their original shape. These were, when the implement was in use, occupied by the index and middle fingers which were thrust in from the lower side, while the thumb and the other two fingers grasped the centre of the spear as it lay along the groove of the spearthrower. Caught under the rawhide wrapping of the loop is a tooth of a canine or feline animal. The main part of the wrapping,

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[1] G. H. Pepper writes, "I would correct what is probably a typographical error and state that the Mañas Cañon should be Mancos Cañon, which is situated in the southwestern part of Colorado." He then states his belief that the specimen was actually found in the Grand Gulch region of Utah, and that no Basket Maker material has been found in the Cliff Dweller region of Colorado.

[2] *Bulletin 4, Free Museum of Science and Art, University of Pennsylvania*, June, 1898, p. 183.

[3] Reproduced on pages 180 and 182 of the above.

which probably had no utilitarian but only an æsthetic and ceremonial importance, is found immediately beyond the finger-loops and is three inches in length and from an inch to an inch and a half in thickness. The under part apparently consists of a wrapping of brown yucca fiber, the upper part of cotton yarn, now of a uniform brown tint, but possibly once of brighter colours. All traces of the

The tiny figure of a rabbit, excellently carved, surmounts the end of the single-holed Florida spear-thrower, its tail forming the propelling-spur.

"bright feather work" reported by Cushing, if they ever existed, have now disappeared, but the proximal part, near the finger-loops, is covered by traces of a yellowish brown fur. Completely hidden by the wrapping on the lower side of the implement are the four beads discovered by X-rays which, according to Cushing, are probably of turquoise and represent the heart of a fetish bird. Projecting beyond the end of the wrapping is the bit of black shiny limonite concretion interpreted by Cushing as a "war fetich stone 'blood

clot,' " and in a similar position on the opposite or upper side is the end of a beautiful thin blade of chipped and polished chalcedony. This is, or was, as Cushing states, either a knife-blade or an arrowhead, but his interpretation of it as a "feather cleaver" or "lightening stone" must be taken on his *ipse dixit.*

In the Hazzard Collection there is also the handle of another spearthrower, better preserved than that of the complete specimen, but containing no ceremonial objects. It is shown on page 299. Cushing's old label for this reads, "Handle of throwing-stick of live oak sapling, bared of wrapping, but with perfect finger-loops, and with rattlesnake skin fetich." The shaft of this is narrower and

Toltec warriors carrying spearthrowers in their right hands and bundles of spears in their left, as shown on the great bas relief frieze in the Temple of the Tigers at Chichen-Itza, Yucatan.

straighter than that of the preceding specimen, the width being about eleven-sixteenths of an inch. At the proximal point and on either side of the finger-loops are wrappings of sinew. The finger-loops are made of some rigid material covered with tanned buckskin, and are intended for small fingers. The small hands and feet of even tall American Indians are matters of record, and the sedentary agricultural natives of the Pueblos of Arizona and New Mexico are among the shortest members of their race.

Around the shaft between the loops are several turns of narrow, thin, hard hide which may be rattlesnake skin, but I am inclined to believe that the feature thus referred to by Cushing is the short strip which extends between the loops parallel to the main shaft and on the lower side of it. This, although superficially resembling

snakeskin, is composed of braided leather thongs. With all his deep insight and thorough knowledge, Cushing apparently made a hasty and incorrect identification in this case.

"The largest and heaviest dart-thrower from the Southwest that has been noted"[1] is also in this MUSEUM. This, No. 22736, was purchased at St. Michaels, Arizona, in 1902, and is said to have been found at Lukachukai, Arizona. This small place is probably in the Basket Maker region, to which culture the spearthrower doubtless belongs. It is, however, rather different from those mentioned above, and is of superior workmanship and technique, as may be seen from the illustration on page 299. In length it measures twenty-three and three-quarters inches, in thickness from a quarter to three-eighths of an inch and in width from seven-eighths to one and one-quarter inches, the size increasing steadily from proximal to distal end. It is therefore of relatively flat cross-section, the upper and lower faces very slightly, the edges markedly, convex. It is perfectly straight and smooth, being carved from a large piece of reddish wood such as oak or hickory, not split from a sapling as in the other cases. A slight sigmoid curve, doubtless intentional, in the plane of the weapon gives it a most efficient shape.

Close to the proximal end each edge is indented in a broad notch three-sixteenths of an inch deep, thus reducing the width at this point from fifteen-sixteenths to nine-sixteenths of an inch. This was obviously done to provide a finger-hold; although the appearance of the specimen is somewhat improved thereby, it produces a point of weakness. Not a trace of finger-loops or binding at this point can be seen and one might conjecture that the notches alone were used for the finger-grip were it not that the black surface layer, resulting from the grip of the sweaty, oily, dirty palms of the hunter as he followed the antelope over the hot, dusty Arizona plateau, stops at a sharp line and the region of the notches is clear and clean. This indicates that they were originally covered with wrapping or binding, and we may confidently conclude that this wrapping bound on finger-loops of a type similar to those of the other spearthrowers from the same region.

The lower side of the implement is perfectly plain and presents no details of interest except at the distal point where, in the medial line, two holes have been drilled to meet in the interior of the wood

[1] G. H. Pepper, *loc. cit.*, p. 112. Discoveries of the past twenty-six years may have invalidated this statement.

in an elbow angle. Possibly this was intended for the insertion of a cord for hanging up the weapon when not in use, or possibly for the attachment of an ornament, such as a feather.

The upper side is slightly ornamented. Along each edge from the finger notches to the distal point runs a straight incised line, certainly purely ornamental in purpose. At the distal point the thickness is greatly increased in the medial line to produce the spur on whose point the spear rests. This spur is an inch and three-quarters long and five-sixteenths of an inch broad, and consists merely of a raised ridge, one end of which extends to the distal end of the implement where it increases the thickness to five-eighths of an inch; the anterior end is slightly undercut to form a projecting point. From under this point a shallow groove extends along the medial line of the weapon to accommodate the resting spear. It measures three-eighths of an inch in width and five inches in length. From its anterior terminus spring two short divergent incised lines, which are probably purely decorative in purpose.

Two Spearthrowers from the Coast of Florida

Quite unique, and certainly the rarest spearthrowers known from America, are several now in the University of Pennsylvania Museum which were taken in 1896 from the mud and muck of Key Marco on the Gulf Coast of Florida. The expedition which secured them, a joint project of this Museum and the Bureau of American Ethnology of Washington, under the leadership of the late Frank Hamilton Cushing, who was mentioned in connection with the Basket Maker spearthrowers, made some extremely important contributions to our knowledge of American archæology. The results of the expedition have been widely quoted in archæological literature. The culture found there differed in many respects from that characteristic of the peoples of the Florida mainland, and in some respects resembled that of the inhabitants of the Antilles and even of South America. Especially unusual and interesting were the wooden objects which, strange as it may seem, can be preserved indefinitely only under two exactly opposite natural conditions, that of complete and constant aridity, and that of similar saturation. Those preserved under the latter conditions, however, generally warp and twist sadly, or even disintegrate completely on exposure to air. Such has been the fate of many of the strange and remarkable wooden specimens brought from the Florida mud. Fortunately, the expedition enjoyed

the services of an artist and photographer who made careful copies of the unique objects, many of them shining with bright colours, as they were carefully drawn from the mud where they had reposed for centuries. Unfortunately, however, the full report of this work has never been published, for Cushing died in 1900 while engaged in working upon it, and archæologists have had to content themselves with a preliminary report, although a fairly full one, made by him in 1896.[1]

Among these rare wooden objects are several spearthrowers of remarkable and unusual types. Unique of their kind, they are the only ones known north of Mexico, south of Labrador, and east of Arkansas. "It was significant," says Cushing, "that no bows were discovered in any portion of the court, but of atlatls or throwing sticks, both fragmentary and entire, four or five examples were found. Two of the most perfect of these were also the most characteristic, since one was double-holed, the other single-holed." The absence of bows is not surprising, since we have seen that they were not employed by the Basket Makers either. It must not be assumed, however, that the Florida Key Dwellers were contemporaries of the Basket Makers; they may have been, but more likely were more recent. It seems that, although the spearthrower is older, and normally a less efficient weapon than the bow, the former is or was the preferred weapon and employed to the exclusion of the bow even among some recent peoples of relatively high culture surrounded by other groups who preferred the bow. Numbers of arrows were found by Cushing and his helpers, however, but the line of distinction between a spear and an arrow is a vague one; these arrows may have been light darts thrown by the spearthrower or actual arrows propelled by bows, the non-discovery of the latter being accidental.

The two complete spearthrowers, drawings of which, taken from Cushing's original report, are reproduced on the next page, are very different from any which we have hitherto considered. They are extremely slender and graceful and the wood must have been of unusual strength and resilience, if indeed the specimens were not purely ceremonial and not intended for actual use. Lateral finger-loops such as are characteristic of the Basket Maker and the Aztec

[1] Frank Hamilton Cushing, *A Preliminary Report on the Ancient Key-Dweller Remains on the Gulf Coast of Florida. The Pepper-Hearst Expedition. Proceedings of the American Philosophical Society*, Vol. XXXV, No. 153. Communicated November 6, 1896.

spearthrowers are not used and the specimens are longer and much more slender than, and of a different shape from, the Eskimo, Californian and Tarascan implements which have the fingerholes perforated in the wood. No types resembling at all closely the Florida specimens are known, but the closest approximation to them seems to be found among the spearthrowers of certain tribes of eastern Colombia, who use long slender implements of artistic appearance of hard red wood.

Spearthrowers from Key Marco, Florida, as they were drawn immediately after extraction from the mud and as published in the original report.

The double-holed spearthrower, according to Cushing's description, is made of a dark, red-brown, flexible wood and measures sixteen[1] inches in length. His description of it follows. "The first was some eighteen inches in length, delicate, slender, slightly curved and originally, quite springy. It was fitted with a short spur at the smaller end and was unequally spread or flanged at the larger or grasping end. The shaft-groove terminated in an ornamental device, whence a slighter crease led quite to the end of the handle, and the whole implement was delicately carved and engraved with edge-lines and when first taken from the muck exhibited a high polish and beautiful rosewood color."

The second was even finer. Cushing describes it as "somewhat longer, slightly thicker, wider shafted, more curved, and, as I have said before, furnished with only a single fingerhole. At the smaller end was a diminutive but very perfect carving of a rabbit, in the act of thumping, so placed that his erect tail formed the propelling-spur. This instrument was also fitted with a short shaft-groove and was carved and decorated with edge and side lines, and the handle end was beautifully curved down and rounded so as to form a volute or rolled knob. . . . Its length was nineteen inches, and it was made from fine, springy hard wood—like rose wood in appearance—probably the heart portion of the so-called ironwood of the region."

[1] In the text description on page 43, Cushing gives the length as eighteen inches; in the description of plate XXXII on page 95, it is given as sixteen inches.

Tarascan Indian using modern spearthrower for hunting fowl on Lake Patzcuaro, Michoacan, Mexico.

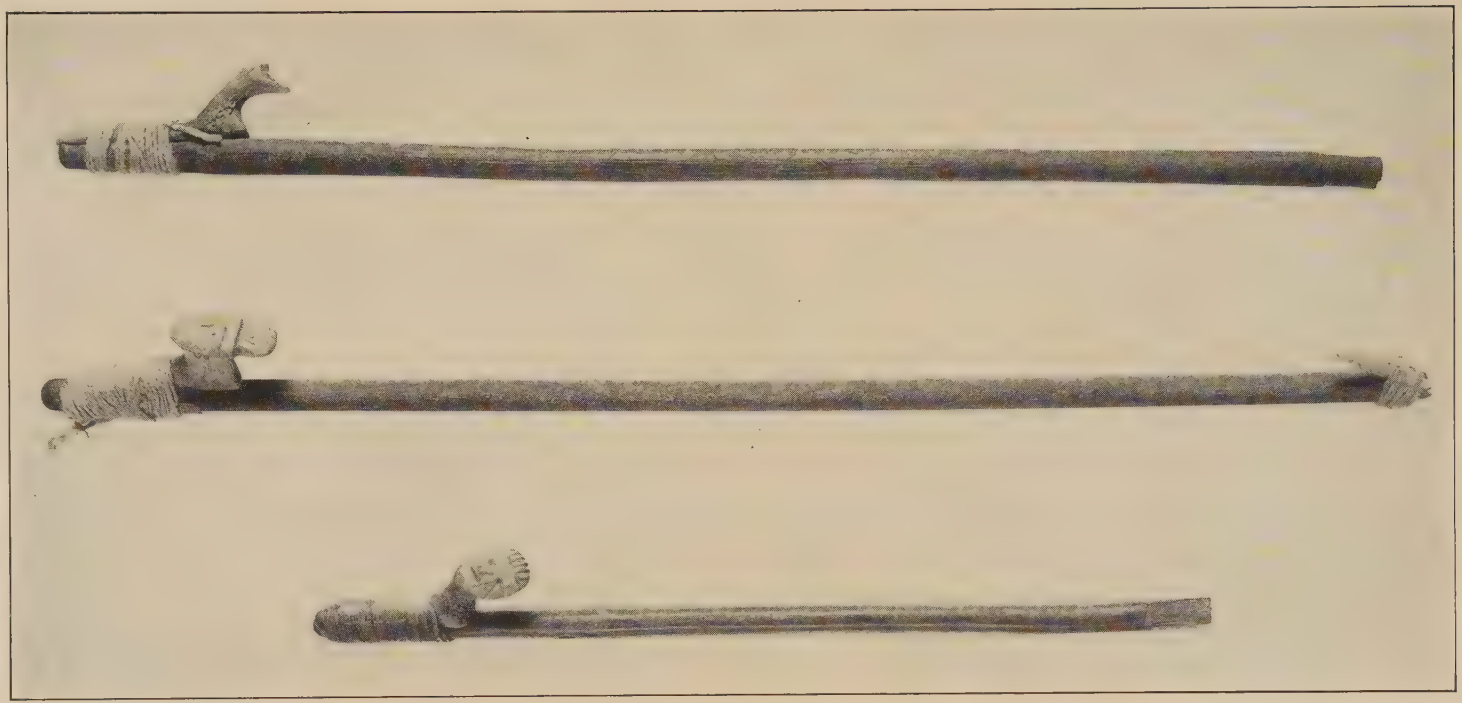
From *Indians of Southern Mexico*, by Dr. Frederick Starr

The carved rabbit at the distal end with its tail forming the spur is strongly reminiscent of the prehistoric spearthrowers of France which were almost uniformly carved in animal forms; here also in a number of the best examples, the tail formed the spur. There can hardly be any historical connection between the two regions, and the tail spur is probably purely coincidental, but the frequent use of carved animals on the implements may readily be explained upon grounds of sympathetic magic—the carved animal upon the weapon would exert a magical influence over its living kin in the hunt.

The condition of the two spearthrowers today may be seen on pages 301 and 304. The longer and finer specimen has not deteriorated greatly, although the curvature has been much accentuated, the single fingerhole has shrunk slightly, and the length has shrunk from nineteen to seventeen and three-quarters inches. The smaller and lighter double-holed spearthrower has suffered much more seriously. It now measures fifteen instead of the sixteen or eighteen inches originally recorded, and is much warped and twisted, the wood being extremely light and flexible. The twin fingerholes have shrunk so that they would no more than accommodate one finger were the septum between them removed, the diameter of the double opening being now only three-quarters of an inch. The spur at the distal end has warped to one side so that it now lies on the plane of the broader handle.

The wood of both is hard, firm, unusually flexible and at present of a dark brown colour, approaching black. Both are decorated on all four faces with a shallow, thin, straight medial groove extending the length of the implement, and with parallel marginal grooves close to the edges of the broader sides. Between the fingerholes of the smaller specimen there is a high ridge and the spur is formed by increasing the width at the distal point for a distance of an inch and a half, and undercutting to produce a knob of sugarloaf shape.

The single-holed spearthrower is of superior workmanship and decoration. The broad groove for the reception of the spear on the upper side ends some three inches short of the fingerhole where it is replaced by a slight ridge, the transition being marked by a transverse groove of chevron shape. On both sides the medial groove bifurcates on approaching the fingerhole. The two ends of this specimen are the points of greatest interest. The handle terminus ends in a graceful volute knob like that of a violin, which probably prevented the



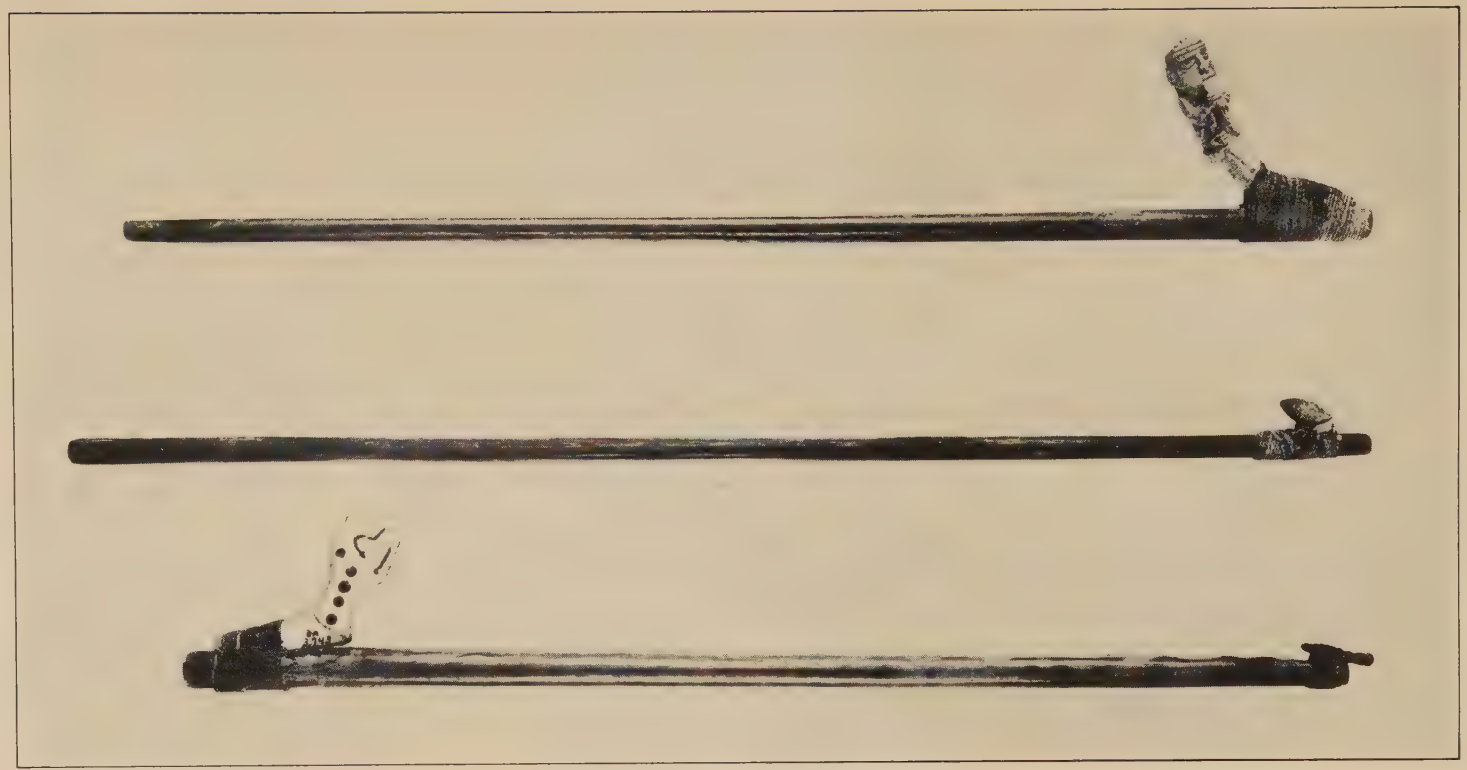
Spearthrowers from pre-Columbian graves near Pisco on the coast of Peru.

grasp from slipping down too far. At the distal point the daintily carved animal, shown on page 307, is an admirable bit of woodcarving. While perfectly symmetrical, it is also perfectly naturalistic. It is most probably, as Cushing identifies it, "a rabbit in the act of thumping," but the present damage to the ears and nose has destroyed some of the characteristic features. The cramped posture of the animal, clinging to the narrow end of the implement, is admirable and indicates an excellent knowledge of animal anatomy. The spaces between the forelegs and between the fore and hindlegs are hollowed out and the legs themselves are perfectly shaped, the forelegs resting on the lower side of the spearthrower, the hindlegs grasping the edges. Even the toes are carefully portrayed, the grooves separating them being about half a millimeter apart. The entire dainty figure is only an inch and a half high, an inch long and half an inch wide. The incised details of the face are slightly conventionalized but decidedly rabbitlike. The stumpy tail forms the spur for the end of the spear, the longitudinal groove at this point being deepened and widened.

The discovery of these two spearthrowers on the Florida Coast was a scientific item of considerable importance, bearing on the moot question of pre-Columbian influences between Florida and the West Indies. The culture of the Antilles was South American at bottom and both of the races which inhabited the islands, the Insular Arawak or Tainan, who were the earlier population, and the invading Carib, were members of groups widely spread in South America. The latter, at the time of Columbus, were engaged in conquering the islands, having possessed themselves of the Lesser Antilles, from which point they were attacking the Arawak in the larger western islands.

Columbus and other contemporary discoverers report that while the Carib in the east used bows and arrows, the Arawak of Cuba and Haiti knew only the spearthrower. This is another evidence of the priority of the spearthrower in human history. Moreover, the short distance between Cuba and the Bahamas and the coast of Florida suggests that our Florida spearthrowers are probably more closely related to the prehistoric forms of the Antilles, and through them to those of South America, than to those of the Eskimo, the Basket Makers, or the Aztecs.

The spearthrowers, it may be remarked, present only one of several phases in which the culture of Cushing's Florida finds shows



In Peruvian spearthrowers both the hand-grip and the spur are bound to a straight shaft. The upper specimen lacks its spur, the central specimen its hand-grip.

resemblances with Antillean-South American cultures, and these discoveries form one of the most potent arguments in favour of such Antillean influences in the southeastern American states. The consensus of scientific opinion upon this question is that the influence of the Antilles upon our southeastern states was evident in places, but not great.

Ancient Spearthrowers from the Coast of Peru

The Museum unfortunately possesses no example of the beautiful spearthrowers or atlatls of the ancient Aztecs, elaborately carved, gilded and sometimes inlaid with mosaics. These extraordinary objects are exceedingly rare and were probably either exclusively ceremonial in purpose or owned by the highest dignitaries. It is owing to their magnificence alone that they have been preserved, for we know not one example of the ordinary type of spearthrower carried by the common warrior, of the propulsive power of which the *conquistadores* spoke with so much respect. The predecessors of the Aztecs, the Toltecs, also used a spearthrower, which is depicted upon the reliefs at Chichen Itza, Yucatan, where Toltec warriors are shown carrying spears and spearthrowers, as may be seen in the illustration on page 308. The latter are portrayed as much shorter than the known Aztec weapons and, apparently, as decorated with plumes.

On Lake Patzcuaro in the state of Michoacan, Mexico, the Tarascan Indians of certain villages along the shore still employ the spearthrower in hunting wild fowl. There are some of these implements in the collections of the Museum, but they are of slight interest, being made of one piece of wood, plain and undecorated, with double fingerholes. The illustration on page 313, made by Frederick Starr, late Professor of Anthropology at the University of Chicago,[1] shows how it was employed.

It is quite likely that at one time the spearthrower was used throughout the region of intensive agriculture from Arizona to Chile. But most of this region is very humid and wooden objects perish quickly. In some places hook-shaped stones which are presumed to have been the knob spurs of spearthrowers have been found. This

[1] The illustration is taken from plate XXI of Dr. Starr's *Indians of Southern Mexico*, Chicago, 1899. Descriptions of the Tarascans and their spearthrower may be found in Dr. Starr's *In Indian Mexico*, Chicago, 1908, and *Notes upon the Ethnography of Southern Mexico*, in *Proceedings of the Davenport Academy of Natural Sciences*, Vols. VIII and IX, Davenport, Iowa, 1900 and 1902.

is especially true of Ecuador and Colombia where so many of these small stones of such characteristic shapes have been found that it is generally agreed that they represent these spurs. The spearthrower is used today by some of the Indian tribes in Brazil, especially by those on the Araguaya and Xingu rivers.

The most perfectly preserved examples of spearthrowers must naturally be sought in the region of greatest aridity. In America this is the Pacific coast of Peru and Chile. Rains in this region are exceedingly rare, the country in general consisting of the barest desert broken now and then by the fertile valleys of rivers descending from the snow-capped summits of the Andes. In Trujillo, for instance, which is near the northern limit of the arid area and is by no means the driest spot, the average yearly rainfall from 1918 to 1924 was 4 millimetres, about an eighth of an inch. However, in 1925, owing to a strange deflection of the cold Humboldt Current along the coast, torrential rains, an unheard-of thing, occurred; 290 millimetres of rain, practically twelve inches, fell in three days in March, with a total for the season of 300 to 400 millimetres. The unprecedented torrents naturally caused great suffering and tremendous damage not only to the works of modern man but to the remains of his predecessors, some of which were damaged more in those three days than in the preceding millennium.

This region, indeed, is in many respects the American counterpart of Egypt. Not only was the culture very high and the artefacts of the greatest interest and beauty, but the custom of the inhabitants, who occupied the fertile river valleys, of burying the possessions of the deceased with them in the arid deserts has preserved for us many unique objects which afford us a clear impression of the material aspects of their culture.

The objects found in these coastal cemeteries do not, for the greater part, represent the culture of the Incas who were at the height of their ascendancy at the time of the Spanish Conquest and which is therefore the only Peruvian civilization known to the layman. Their culture, however, like that of the Aztecs in Mexico, was relatively new and had been preceded by other civilizations of equal grade but less known. In Peru the oldest cultures were apparently those of the coast, which probably dated from about the beginning of the Christian era. Their artefacts, excavated from the desert sands, fill our museums, but of their history we know little or nothing.

The hand-grip of one of the Peruvian spearthrowers made of bone and carved in the form of a seated figure playing pan-pipes.

The culture of Nazca in southern Peru near Pisco was one of the earliest and highest of the Peruvian civilizations, the beautiful pottery and textiles being renowned. Most of the Peruvian spearthrowers known come from the Nazca-Pisco region.

The UNIVERSITY MUSEUM possesses ten spearthrowers, whole or fragmentary, from the Nazca district. These were secured by Dr. W. C. Farabee, late Curator of the American Section, on his expedition to Peru in 1922 and 1923. Unfortunately, owing to his severe illness which later proved fatal, the data on his collections are not full, and it is uncertain whether he excavated these specimens himself or purchased them, nor do we know exactly where they were found, nor what their associations were with other objects in the same grave. Some of them, at least, seem to be from Manrique, a small place in Pisco Valley, and it is quite probable that all of them were found in the same grave. The interment of large numbers of such objects in one grave seems to have been customary; in one recorded instance eighteen spearthrowers were found with one interment.[1]

These spearthrowers are all of one definite type, although differing greatly in details, but this type bears practically no resemblance to those which we have already discussed. All of the types considered before, with the exception of a few specialized forms in Alaska, have been equipped with fingerholes, either attached to the weapon or forming a part of it. The propelling spur is generally also a part of the implement or inseparably attached to it.

The Peruvian spearthrower, as may be seen on pages 315 and 317, consists of a straight, rather short stick of circular cross-section, to which a handle is attached at one end and a peg at the other. Although the main shaft is generally grooved at the distal point for the reception of the peg, yet tight wrapping with cotton cord is the main reliance for the attachment both of the peg and the handle. This method would appear much less efficient than the others, but apparently it stood the strain well.

The shafts measure from 46 to 56 cm., or 18 to 22 inches, in length, and are made of hard reddish or black woods, probably species of palm. One of them is decorated with fine incised lines which cross spirally at right angles to each other. Only three of them still retain the pegs for the spear, but these illustrate very

[1] Max Uhle, *Peruvian Throwing-sticks*. *American Anthropologist*, new series, XI, 1909, pp. 624–627.

different types. One of these, S. A. 3746, figured on page 317, is the most divergent in many respects and may represent a slightly variant phase of culture, since it is the longest, the only one made of black wood, and the only one with a copper peg. This peg is very tightly attached by means of cordage wound in a close spiral which was originally covered with pitch or tar. It possesses no handle knob, unfortunately.

Hand-grip of a spearthrower carved in the form of an owl, from the coast of Peru.

The spur of another is made of hard wood, tightly bound on with cord and covered with a hard cement, while that of a third is a long peg of bone, very carelessly bound with cord; possibly the binding is modern.

The attached handle-grips and one handle which is not attached are identical in type but differ greatly in style and method of decoration. All are of bone and consist of a carved figure or hook which extends forward from the shaft at an angle of approximately forty-five degrees, and a shaft of from an inch and three-quarters to two

inches and three-quarters in length. It is by this shaft that the handle is bound tightly to the main wooden shaft of the implement, the lower side being made slightly concave for this purpose. The ends of the two shafts are normally flush. The planes of the handle and of the distal peg differ by a few degrees so that the spear, when in position, lies on the left side of the handle grip where it was evidently grasped by the fingers. In three of the specimens the binding may be modern; the other two are carefully bound with cord, fixed, in one case by the use of pitch or tar, in the other of sinew.

The grip of one of the implements, S. A. 4307, shown on page 315, is little more than a hook, though it might be interpreted as a conventionalized bird. In two other instances, S. A. 4306 and S. A. 3744, shown on the same page, a human face is carved on the upper knob. This carving is in both cases quite amateurish, but displays facial decoration, either painting or tattooing. The other three are excellent specimens of carving. The unattached handle-grip, S. A. 3796, which may be seen on page 322, represents an owl or some similar bird, with wings partly opened as if in the act of taking flight. The large round eyes, prominent beak and feathered shins are well portrayed, but the depiction of the wing feathers is somewhat conventional, a small incised circle being shown on the inner part of each.

The handle-grip of S. A. 4401, the finest of the specimens, is carved in the form of a seated musician, playing upon pan-pipes. The execution is strong but rather angular and unfinished. The same could probably be said of the execution of the musician, since his pipe consists of only four reeds. The headband, binding back the long hair, the great ear-ornaments, and all other details of the figure are typically Peruvian in style. This is illustrated on page 320.

The last specimen, S. A. 3743, shown on page 317, is unique in several respects and may belong to a slightly variant phase of the culture. The shaft is the thickest of any, measuring eleven-sixteenths of an inch, while the others are all under half an inch, and is of a reddish wood, highly polished. The long wooden peg is fastened with a kind of cement. The handle-grip is unusual in being extremely conventionalized, probably representing the head of some animal. The eyes are deeply incised with a drill and were probably originally inlaid with coloured stones such as are employed in the four depressions in a line on either side of the neck. Here are utilized bits of violet and dark green substances, most probably shell and malachite. The nose and mouth are portrayed by means of two long thin slots

which entirely traverse the bone. That for the mouth is straight, that for the nose meandering. Both were made by the technical process of first drilling a small hole, from which perforation the slot was continued by a sawing technique, probably by means of a cord or thong working in sand.

Thus spearthrowers are, as we have seen, used today by certain groups of American Indians isolated from each other and scattered from the Arctic to Brazil. Archæological evidence and historical reports show that in earlier days their use was much more widespread. Since, doubtless, most types of spearthrowers were made entirely of wood and with the lapse of ages have disappeared without leaving a trace, the hypothesis is not ill founded that the few isolated cases of the use of the spearthrower as above described represent but the last survivals of the employment of an implement which was in the earliest days in universal use throughout aboriginal America.

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I give and bequeath to the Trustees of the University of Pennsylvania the sum of.....dollars, in trust for the uses of the University Museum. (Here, if desired, specify in detail the purposes.)

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There shall be five classes of Contributors designated as follows:

Benefactors,	who shall have contributed the equivalent of	$50,000
Associate Benefactors,	" " " " " "	25,000
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